

China's Regulatory Framework on Pollutant Discharge Permits

An overview on the formulation and implementation of Pollutant Discharge Permits in China and the sharing of EU experience of permitting

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EXPERTS TEAM

Martin Bigg

Dimitri De Boer

Rong He

Xueju Huang

Lei Jia

Ludwig Kramer

Yuanyuan Li

Xiaofei Pei

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Foreword

China has made remarkable industrial and economic progress over the past 40 years. However, such rapid growth has been achieved at the expense of environmental wellbeing, a timeless challenge facing all countries and regions regardless of the level of development. Since 2014 China has been developing an integrated regulatory framework using pollution discharge permits (PDP) to manage releases to air, land and water. This complements the measures taken earlier on air and water pollution control, waste management and environmental impact assessment. Early 2018, the country introduced the provisional Measures for Pollutant Discharge Permitting (the “Measures”). Later on, incorporating the implementation experience of the Measures, the draft Regulation on Pollutants Discharge Permit Administration (the “Regulation”) was released for public consultation in November 2018.

The Measures and the Regulation were developed in consultation with regulators, administrators and national ministries especially the Ministry of Ecology and Environment (MEE).

The design, devising and implementation of the pollutant discharge permit (PDP) regulation have been supported by an EU funded project with the aim of sharing good practices between the EU and China. The project assisted policy makers to formulate more informed decisions in drafting and implementing the Regulation at both central and local government level. It has identified challenges with the Measures and Regulations and made recommendations for further action.

This paper provides an overview on the formulation and implementation of Pollutant Discharge Permits in China. It also highlights the benefits of EU – China collaboration in this field and proposes recommendations for further improvement of the permitting system.

The setup of a comprehensive environmental permitting system in China is a remarkable achievement. The development of further monitoring and verification operations, such as those associated with climate change mitigation efforts represent further challenges and opportunities. The EU stands ready to collaborate closely with the Chinese authorities in charge of ecology and environment to ensure a highly effective and efficient environment protection in China.

Sébastien Paquot

*Counselor for Environment and Climate Action –
EU Delegation to China.*



Executive Summary

This study report introduces China's pollutant discharge permitting (PDP) systems in a comprehensive way. The permitting system is a result of combining environmental management practices at both international and national levels. The establishment of a permitting system, aligning various environmental governance systems, is expected to improve the efficiency of environmental departments and exercise whole-process management over stationary sources and coordinated control over multiple pollutants. This will create a comprehensive "one-permit" governance system that is science- and law-based and digitalized.

The study includes a review of current status on the issue of permits, investigation of the feedback at local level, recommendations on the draft permit regulation through meetings and interviews with both local government agencies and enterprises, and a summary of the current challenges in implementing the regulation.

It describes the design of permitting system and permitting process, including the legal framework of PDP regulation, its interaction with other policies/regulations, such as environmental impact assessment (EIA), total pollutant discharge volume management, environmental statistics, environmental monitoring, greenhouse gas emission permit, and the emission trading scheme.

It covers the types of permits, the verification process, as well as monitoring and reporting. It focuses on how to have effective and efficient monitoring, including monitoring locations, frequencies, analytical methods, reporting and recordkeeping requirements, especially focusing on self-monitoring, use of online data and effective data analysis. It looks at how information technology and data management will affect the permitting systems introduced. It is also important to ensure that the data from self-monitoring is directly usable by the regulator and others in the enforcement chain.

The study also looks into how the permit can be effectively enforced, how to verify compliance with permit conditions, and how to improve enforcement measures including the use of big data, non-field

inspections, case studies, penalty for non-compliance. Special consideration is given to the driving forces on compliance, whether third-party verifiers are involved and what qualifications are required for third-party verifiers. Moreover, it makes relevant recommendations based on learning from EU experiences.

The EU initiated its implementation of comprehensive environmental permitting in the 1970s and truly integrated environmental permitting was fully implemented in 2010. It was a challenging transition but has delivered a regulatory framework which is clear and consistent securing the best outcome for the environment as a whole. It also benefited from the collaboration of representatives and experts from lawmakers, regulators, industry and public representatives of twenty-eight nations. The skills and experiences of implementing and operating an integrated permitting process are available to be shared with governments, public and commercial bodies across the world. Therefore, this study includes a summary of the relevant EU laws and regulations, experiences and lessons, taking into consideration the current challenges of implementing environmental permitting in China.

The development and roll out of the new permitting scheme is both challenging and a valuable opportunity to make a difference. There is a commitment to make it happen and this must be encouraged. There will continue to be challenges around resources and timescales. However, the permitting scheme is sufficiently flexible to allow for corrections and updating as required. From discussions with national, regional and local officials there is commitment to make the new permitting system work. Challenges have been identified but none should stop the progress of the programme. Where possible and based on experience in the EU potential solutions have been identified.

There are strong similarities between the EU and Chinese permitting schemes. Therefore, a comparison between the schemes is very valuable from the point of view of learning from each other and helping organisations to understand the working of the schemes. As the EU scheme has generally predated

the Chinese scheme the latter can benefit from the lessons and issues of the former. In particular the Chinese scheme has an opportunity to integrate many of the related environmental regulatory schemes which is not available to the EU. Sharing practical knowledge of the workings of each scheme is mutually beneficial and will help not only policy makers but also administrators and regulators. This

sharing of experience between regulators across the EU has proved valuable, securing more consistent approaches and identifying good practices. A better understanding of the Chinese system will help EU policy makers in future work, and businesses and organisations undertaking work with and in China.

1. Introduction

1.1 BACKGROUND

“We only have one Earth. Protecting ecological environment and pushing sustainable development are our joint obligations.” Chinese President Xi Jinping in a congratulatory letter to the World Environment Day 2019 celebrations held in Hangzhou city, Zhejiang province, calling for joint efforts to promote green, low-carbon and sustainable development.¹

Over the past four decades, China has been working to shift from low value manufacturing to higher value manufacturing and services. At the same time it has been working to develop new legislation and strengthen its institutional and regulatory structures to tackle the sources of pollution at source. The government is seeking a high-quality and sustainable path to growth. This involves providing businesses with clear requirements and expectations and balancing the requirements of environmental and ecological protection with the efficient and effective use of resources. It has sought to strengthen the regulatory systems and the rule of law while supporting the economy and market system.

China is a major global and regional actor on economic and environmental issues, having a significant impact on neighboring and other countries. The high air pollution levels in China’s recent history are typical of an industrialising economy. However, over the recent years China has been developing cleaner industries and cleaning up much of its pollution at very high speed.

As a significant emitter of pollution and greenhouse gases, and source of water pollution, the actions of China can affect other countries. Global environmental problems cannot be solved without China’s engagement. Many of the complex development and environmental challenges faced by China are or have been faced by other countries and regions. It is

essential therefore that countries and regions share their learning and experience of clean technology, low carbon energy and better regulation so that all may benefit each other and themselves.

1.2 CHINA'S ECONOMIC GROWTH, ENVIRONMENTAL AWARENESS AND COMMITMENTS

From 1978 when China started to open up and reform its economy, its annual GDP has grown by almost 10 percent a year on average and now China is the world’s second largest economy.² However, the per capita income is only about a quarter of that of high-income countries and there is substantial potential for further growth. China’s rapid economic development has been based on resource-intensive manufacturing and exports. This has led to significant impacts on its environment particularly on air, water and soil quality.

China has developed pollution control legislation and established ministries and departments responsible for environmental protection since the 1980s. However, during the decades of rapid economic transformation, the economy was driven by heavily polluting industries such as coal, steel, cement, construction and cars. Factories appeared to pollute without control and priority was given to fast GDP growth above everything else.

In the preparations for the Olympic Games in Beijing in 2008 there was increasing global awareness and concern about the air quality in and around the city. At the time, actions nationally and locally secured dramatic improvements for the duration of the Olympic and Paralympic Games. The benefits of these changes helped the emerging of a nationwide drive to reduce pollution and improve the

1 <https://www.chinadaily.com.cn/a/201906/05/WS5cf73b0fa3105191427012cb.html>

2 The World Bank in China. Overview updated 13 December 2019

environmental performance and regulation of the more polluting industries for the long run.

Significant improvement in air pollution control was achieved from 2006 to 2010 by setting up emission limits for each province at the central level. Reductions in air pollution were observed after the Chinese government created the Ministry of Environmental Protection (MEP) in 2008. It started to gather reliable SO₂ emissions data from continuous emissions monitoring systems (CEMS) at the prefecture level and increased the number of enforcement officials.³

The 2013 Air Pollution Action Plan⁴ was another significant step in improving the environment.⁵ It helped China make significant improvements to air quality by setting PM_{2.5}⁶ targets for key regions, requiring significant reductions between 2013 and 2017 – of 15% in the Pearl River Delta, and of 33% in Beijing. By the end of 2017 in Beijing annual average PM_{2.5} levels were reduced from 89.5µg/m³ to 58µg/m³ by the closure of its coal-fired power stations.⁷ However, the annual average PM_{2.5} concentration was 43 µg/m³ in China's cities in 2017 and only 107 out of 338 cities of prefectural level or higher had reached the WHO's interim standard of 35µg/m³.⁸ No Chinese city reached the World Health Organization's recommended annual average PM_{2.5} level of 10µg/m³.

The environment has been central to national policy development since the 18th National Congress of the Communist Party of China, held in 2012, where the establishment of ecological civilization was written into the CPC Constitution for the first time.⁹ At a meeting of the Party in March 2015 President Xi Jinping summed up China's strategy for economic restructuring as striving for both "green mountains and gold mountains".

At the 19th National Congress of the Communist Party of China on 18 October 2017 President Xi Jinping set out a strategy which combined environmental

protection with a broad plan to restructure industry toward higher value-added manufacturing, away from the old reliance on heavy industry, resource extraction and low-tech steel and coal production.¹⁰ He said:

"Given China's realities, ecological and economic developments both are of great significance because ecological development helps economic development in the long run."

During 2018, China sought to implement the spirit of the 19th National Congress, pursuing the vision of innovative, coordinated, green, and open development for everyone.

China started to conduct central environmental inspections, implemented guidelines to control air, water and soil pollution, published plans to realise the 2030 Agenda for Sustainable Development, and implemented¹¹ a national plan to tackle climate change.

In January 2018 China introduced an environmental protection tax, aimed at protecting the environment and cutting pollutant discharges. Over 260,000 enterprises and other entities started paying the tax in April 2018.

In April 2018, through institutional restructuring, China established the new Ministry of Ecology and Environment (MEE) to take charge of the protection of fresh water, land, air and oceans, and the Ministry of Natural Resources responsible for making overall planning and overseeing the development and protection of natural resources. MEE carried on the former duties of the MEP and absorbed other environmental protection functions of various central government departments. According to the data from the Ministry of Ecology and Environment, in the first ten months of 2018, a total of 33,015 environmental violations were reported, leading to fines of over 11.8 billion yuan (1.71 billion U.S. dollars), and 6,590 people were detained.

In June 2018 the Central Committee of the Communist Party of China (CPC) and the State Council announced a guideline for enhancing environmental protection and winning the battle against air, water

3 <http://blogs.edf.org/markets/2018/05/17/how-china-is-cleaning-up-its-air-pollution-faster-than-the-post-industrial-uk/>

4 http://www.gov.cn/zwqk/2013-09/12/content_2486773.htm

5 <https://www.chinadialogue.net/authors/2265-Feng-Hao>

6 <https://www.chinadialogue.net/blog/5518-PM2-5-air-pollution-blamed-for-more-than-8-deaths-in-four-Chinese-cities/en>

7 <https://www.chinadialogue.net/blog/9710-Goodbye-to-six-decades-of-coalpower-in-Beijing/ch>

8 <http://www.greenpeace.org.cn/air-pollution-2017-city-ranking>

9 https://www.chinadaily.com.cn/china/2015twosession/2015-03/11/content_19776081.htm

10 https://www.chinadaily.com.cn/china/19thcpcnationalcongress/2017-11/04/content_34115212.htm

11 https://news.cgtn.com/news/3d3d674e33416a4e31457a6333566d54/share_p.html

and soil pollution, specifying pollution control targets for 2020 and beyond.

The new 2018-2020 Three-year Action Plan for Winning the Blue Sky War¹², was published in June 2018. It marked a step change in environmental protection, balancing the drive for economic development with improving the quality of life. It required the issue of industrial permits to be completed by the end of 2020. The Action Plan stated:

“Intensify industrial pollution control. Continue to promote the full compliance of industrial pollution sources with emissions, use the online monitoring data of smoke as the basis for law enforcement, increase penalties for exceeding standards and joint disciplinary measures, and where enterprises fail to meet the standards, suspend production and take action taken to rectify the situation according to the law. Establish an enterprise emission permit system covering all fixed pollution sources, and by the end of 2020, complete the issue of industry permits as specified in the emission permit management directory.”

Other significant features of the action plan included:

- » a. Strengthened commitments to reduce air pollution and introduced new measures. Sulphur dioxide and nitrogen oxides were to be reduced by 15% by 2020 compared with 2015. Where cities had not met existing PM2.5 standards, tighter standards were applied. Targets were also introduced for volatile organic compounds. The new plan specifically sought a reduction in emissions of greenhouse gases, pointing towards the integration of the management of air pollution and climate change.
- » b. Active promotion of regional and planning environmental impact assessments. New, renovated and expanded steel, petrochemical, chemical, coking, building materials, and nonferrous metals projects should meet regional and planning environmental impact assessment requirements.
- » c. Accelerating the relocation or closure of heavy polluting enterprises in urban built-up areas including iron and steel, cement, flat glass, coking, chemical and other heavy polluting enterprises.

- » d. Promote the upgrading and transformation of pollution control in key industries. Sulfur dioxide, nitrogen oxides, particulate matter, and volatile organic compounds (VOCs) in key regions will fully implement special emission limits for air pollutants. Promote the implementation of ultra-low-emissions transformation in steel and other industries.
- » e. Expand the scale of green industries, develop energy-saving and environmental protection industries, clean production industries, clean energy industries, and cultivate new momentum for development.
- » f. Improve the environmental monitoring network. Strengthen the monitoring of ambient air quality, optimize and expand the state-controlled environmental air quality monitoring stations. Strengthen the automatic monitoring network construction of ambient air quality in districts and counties.
- » g. Strengthen environmental law enforcement. Maintain tough enforcement of pollution control, use daily penalties and punishment, seal and seize, limit and stop production and use other means to severely punish environmental violations according to law and reinforce the responsibility of polluters. Those who fail to obtain pollution discharge permits according to law and fail to discharge pollutants according to permits to be severely punished in accordance with law and regulations. Strengthen the district and county level environmental law enforcement capacity building. Innovate environmental supervision methods and promote supervision such as “double random and one open” inspection. Maintain strict environmental law enforcement inspections, grid monitoring of air pollution hotspots in key areas, strengthen environmental law enforcement such as on industrial furnace and kiln emissions, industrial unauthorised emissions, and VOCs pollution control, and crack down on uncontained pollution sources. Strengthen the connection between ecological environment law enforcement and criminal justice.

In May 2019 China released its annual report on the conditions of its ecology and environment.¹³ China’s environmental authority said that the situation was improving, but more efforts are needed to maintain

12 http://www.gov.cn/zhengce/content/2018-07/03/content_5303158.htm

13 <https://news.cgtn.com/news/3d3d514e7767544f34457a6333566d54/index.html>

the positive trend. According to the report, 338 Chinese cities last year enjoyed more than 79 percent clean air days, up 1.3 percentage points over the previous year. 71 percent of surface water is now considered of good quality, up about 3 percentage points from the previous year. 45 percent of China's land area meets excellent standards in the ecological and environmental evaluation, a 3 percentage points increase. The trend was also shown in the nation's maritime environment and radiation levels. In 2018 the ministry handled out over 186,000 administrative penalty cases, an increase of 32 percent from 2017.

1.3 EU-CHINA COOPERATION ON POLLUTANT DISCHARGE PERMIT

The EU-China Environment Project, which is funded by the European Union, supported an in-depth study on Pollutant Discharge Permit (PDP) Regulation and Implementation in China during 2018-2019. The objective of the study was to support the design, drafting and implementation of the pollutant discharge permit regulation by sharing good practice, experiences and lessons from the EU and China. The target group for this study is policy makers involved in drafting and implementation of pollutant discharge permit regulations at central government level and at provincial or local level, as well as other stakeholders involved in the legislation of permitting regulation.

The EU-China Environment Project is designed to reinforce EU-China cooperation on environment, support the EU-China Environmental Policy Dialogue, and help to achieve higher environmental protection standards, more convergence between the EU and China on environmental governance and greater integration of environment into other areas of government decision. It is funded by the European Union Foreign Policy Instrument and is being implemented by a consortium of GOPA, the Policy Research Centre for Environment and Economy of the Ministry of Environmental Protection of China (PRCEE), and Client Earth, a non-profit environmental law group based in Europe and China.

At the first Project Coordination Committee (PCC) meeting on 6 March 2018 in Beijing, the PCC confirmed that one of the priority activity of the programme is Pollutant Discharge Permit (PDP) regulation and implementation, and an in-depth study should be carried out to foster the adoption of environmental best practices in pollutant discharge permit management by encouraging the sharing of experiences and lessons from the EU and China.

Environmental permitting is a key instrument for regulating a wide spectrum of industry's environmental impacts and promoting technological innovation. China is in the process of establishing a new integrated pollutant discharge permitting system. In January 2018, the Chinese Ministry of Environmental Protection released the *Measures on Pollutant Discharge Permit Administration (provisional)*. According to the provisional regulation, the environment authority will issue a pollutant discharge permit, which includes all-inclusive pollutant information allowed for discharge, to each enterprise. By issuing the permit, environmental authorities will specify the location and number of pollutant discharge outlets for companies, the method and direction of discharge, as well as set ceilings on the variety, concentration and amount of pollutants. Companies in violation of the permit may face fines up to 1 million yuan (about 150,000 U.S. dollars) or suspension of operations. Actions that hamper supervision, such as the damaging of monitoring devices and failing to keep original monitoring records, will also be punished.

By the end of 2017, 15 industrial sectors had to apply for the pollutant discharge permit. It includes notably thermal-power, paper manufacturing, steel and iron, printing and dyeing, pharmaceutical, leather, electroplating, petrochemical, flat glass, fertilizers and pesticides etc.

A total of 82 sectors for stationary sources of pollution will have to comply by 2020. Meanwhile, the Ministry of Ecology and Environmental (MEE) together with the Ministry of Justice are working together on the legislation on pollutant discharge permit system.

The pollutant discharge permit system is envisaged to form the cornerstone of China's pollution management and control from stationary sources, as has been the case in Europe for decades. It is a very good example of where European and Chinese systems for environmental protection are converging. This study is mainly to meet the demand from relevant departments of MEE, and stakeholders involved in relevant legislation and enforcement. It is to share good practice and raising awareness and capacity of those implementation and enforcement of legislation in permitting, pollution prevention and control for inspectors and others in the enforcement chain.

The study has focused on the management of the permit and its compliance and enforcement after it is issued, the interaction between the permit regulations and other policies such as EIA, but not the

process of issuing permits. By contrast, in Europe the emphasis of public supervision tends to be in the process of issuing permits. The study does not focus on the process of issuing permits, but rather on the effectiveness of supervision of permitted companies.

1.4 ESTABLISHING A POLLUTANT DISCHARGE PERMIT SYSTEM IN CHINA

The study has undertaken in-depth research and makes relevant recommendations on the following areas.

1.4.1 Current status, problems and challenges in Pollution Discharge Permitting (PDP)

The study includes a review of the current status of the issue of permits, investigation of the feedback at local level, recommendations on the regulation through meetings and interviews with both local government agencies and enterprises, and a summary of the current problems and challenges in the implementation of the regulation.

1.4.2 Design of permitting system and permitting process

The study includes the legal framework of PDP regulation, its interaction with other policies/regulations, such as environmental impact assessment (EIA), total pollutant discharge volume management, environmental statistics, environmental monitoring, greenhouse gas emission permit, and the emission trading scheme etc.

1.4.3 Permit verification and procedures

The study includes the types of permits and the verification process, and whether or not field inspection is needed.

1.4.4 Monitoring and reporting

The permittees are required to conduct routine self-monitoring of permitted discharges and internal operations and report the analytical results to the permitting authority with the information

necessary to evaluate discharge characteristics and compliance status. This study focuses on how to have effective and efficient monitoring, including monitoring locations, frequencies, analytical methods, reporting and recordkeeping requirements, especially focusing on self-monitoring, use of on-line data and effective data analysis. It looks at how information technology and data management will affect the permitting systems introduced. It is also important to ensure that the data from self-monitoring is directly usable by the regulator and others in the enforcement chain.

1.4.5 Enforcement and compliance

The study looks into how the permit can be effectively enforced, how to verify compliance with permit conditions, and how to improve enforcement measures including the use of big data, non-field inspections, case studies, penalty for non-compliance, etc. Special consideration is given to the driving forces on compliance, whether third-party verifiers are involved and what qualifications are required for third-party verifiers.

1.5 LEARNING FROM EU EXPERIENCE

In the European Union, integrated permitting is mandated by EU Directive 2010/75/ on industrial emissions (the 'Industrial Emissions Directive' (IED)). Its predecessor, the EU Directive concerning integrated pollution prevention and control (IPPC), was firstly adopted in 1996. It subsequently developed into the IED following a series of reviews and iterations. With over 20 years of experiences and lessons in integrated permitting systems and legislation, the EU legislative process provides a good reference for China when establishing its own regulatory framework.

This study includes a summary of the relevant EU laws and regulations, experiences and lessons, taking into consideration the current problems and challenges of implementing environmental permitting in China.

It should be noted that during around eight years the 28 EU countries successfully permitted 50,000 industrial processes. China's plan is to permit 500,000 industrial processes in two years – a tremendous effort.

Leading international experts on environmental permitting participated in training workshops in

Beijing, Hangzhou and Guangzhou between December 2018 and November 2019 with representatives of China's national, regional and local environmental regulators and administrators. There were also representatives from the Policy Research Center of Environment and Economics (PRCEE), Ministry of Environment and Ecology (MEE), China and the First counsellor, Environment and Climate Change, EU Delegation to China. The international experts shared their knowledge and experience from an EU perspective and the Chinese experts from a national perspective on:

- » a. Institutional and legal framework of integrated environmental permitting
- » b. Permit issuance, management and supervision
- » c. Chinese Pollutant Discharge Permit Regulation (draft for consultation)

A substantial amount of time was devoted to questions and answers on the EU and Chinese permitting systems.

This study includes the views, experiences and information shared in the workshops. It represents the views from the project experts and does not represent the views of the European Union or the Chinese government.

2. China's current environmental legislation

2.1 ENVIRONMENTAL LEGISLATION

In China, laws are developed and promulgated by the National People's Congress and its Standing Committee.¹⁴ Administrative regulations are then formulated by the State Council. Ministries and commissions under the State Council produce Department rules and each province and municipality prepares its own local regulations.

China's current environmental law system is based on the Constitution of the People's Republic of China, with the Environmental Protection Law providing the main legal framework, supported by other separate environmental laws, administrative regulation, departmental rules, local decrees and local government rules, environmental protection standards system, and international environmental conventions or agreements which China has concluded.

The main environmental laws are:

- » a. Environmental Protection Provisions in the Constitution of the PRC:
 - i. Articles 9, 26 and 51 of the Constitution
- » b. Basic Law of Environmental Protection:
 - i. Environmental Protection Law of the People's Republic of China
- » c. Specific Environmental Laws:
 - i. Pollution Prevention and Control Laws
 - ① Air Pollution Prevention and Control Law
 - ② Water Pollution Prevention and Control Law
 - ③ Solid Wastes Pollution Prevention and Control Law

- ④ Environmental Noise Pollution Prevention and Control Law
- ⑤ Soil Pollution Prevention and Control Law
- ⑥ Marine Environment Protection Law
- ii. Ecological and Environmental Resources Protection Legislation:
 - ① Water Law
 - ② Grassland Law
 - ③ Fisheries Law
 - ④ Forestry Law
 - ⑤ Land Administration Law
 - ⑥ Mineral Resources Law
 - ⑦ Wild Animal Conservation Law
 - ⑧ Water and Soil Conservation Law
 - ⑨ Prevention and Control Law of Desertification
- iii. Resources Recycling Laws:
 - ① Cleaner Production Promotion Law
 - ② Circular Economy Promotion Law
- iv. Energy and Energy Conservation Laws:
 - ① Energy Conservation Law
 - ② Renewable Energy Law
 - ③ Electric Power Law
 - ④ Coal Industry Law
- v. Law on Environmental Impact Assessment

Other departmental rules are important regulations that usually contains time-bound targets on specific pollutants, sectors or regions, notably the *Air Pollution Prevention and Control Action Plan* (known as Air Ten Regulation), the *Water Pollution Prevention and Control Action Plan* (known as Water Ten Regulation), and the *Soil Pollution Prevention and Control Action Plan* (known as Soil Ten Regulation). The Five-Year Environmental Plans are also important and guiding documents with specific five year targets for environmental regulation. Enterprises emitting pollution may be inspected by authorised environmental supervision institutions

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at all administrative levels but only the ecology and environment authorities at county level or above can impose administrative penalties.¹⁵ Ecology and environmental administrative authorities at county level or above can take various enforcement measures including seizing and impounding the polluting facilities and equipment. Public security departments at county level or above can detain an individual who violates environmental laws.

2.2 LEGAL BASIS FOR POLLUTANT DISCHARGE PERMITTING SYSTEM

The role of the permitting system and its functions is considered in the context of overall environmental regulatory system and its legal framework. The overall system is generally seen as a cycle that starts with policy planning and the setting of environmental standards and objectives, together with the establishment of legislation and regulations in order to give them legal effect. It is the legal framework that gives force to the interacting activities of permitting, compliance control and promotion, and enforcement.

2.3 POLLUTANT DISCHARGE PERMITTING

Until 2014 separate permits were required for each aspect of the operation of a polluting entity or activity. Permits were required for releases to atmosphere and discharges to water. Entities also had to obtain separate environmental permits for the exploitation and use of resources, construction projects, and treatment and disposal of solid and hazardous wastes. From 2014 regulations and specifications were developed and implemented to prepare for an integrated permitting system. The *draft Interim Regulation of the Pollutant Emission Permits* (issued on 27 November 2014 by the former Ministry of Environmental Protection (now the Ministry of Ecology and Environment) was the turning point. Entities discharging pollutants to air or water, undertaking large-scale livestock farming, energy plants, waste treatment and disposal were required to obtain emission permits. In 2017 permitting requirements were extended to the iron and steel industry.

The *Fixed Pollution Source Emission Permits Classified Management Directory* (2017 edition) (issued on 28 July 2017 by the MEE) specified 78 industries and four general processes to be regulated under the pollutant permission permits by 2020. It also introduced an environmental impact based approach.

Pollutant discharge entities were divided into key management entities and simplified management entities, based on the pollutant amount of production and emission, and the degree of environmental damage. By the end of 2018, technical specifications for the application and issuance of pollutant discharge permits had been issued by the MEE for more than 30 industries.

The Measures for Pollutant Discharge Permitting Administration (issued on 10 January 2018 by the MEE), regulate the pollution discharge permitting administration, including the application for and the issuance and enforcement of pollution discharge permits and the regulation, punishment and other conduct relating to pollutant discharge permitting.

3. China's environmental permit regulation

3.1 LEGAL BASIS FOR CHINA'S POLLUTANT DISCHARGE PERMIT SYSTEM

China's permit system is a result of combining environmental management practices at both international and national levels. The system has been working in China for nearly 40 years and is supported by a number of laws, regulations and policy documents. A systematic review of the relevant legal provisions, regulations and policy documents was undertaken before the new Regulation for Pollutant Discharge Permitting Administration was drafted.

The implementation of the pollutant discharge permit system is an important part of the changes introduced by the Chinese government to reform environmental governance so as to advance ecological civilization.¹⁶ It is also an important strategy to improve the quality of the environment as a whole. The government recognised that a well-established permit system can provide a solid foundation for the reform of China's environmental governance, and provide an important legal basis for corporate compliance, law enforcement and social scrutiny.

3.1.1 Establishing the basis of a pollutant discharge permit system

Since 2013, the Chinese government has issued a series of documents such as "The Decision on Major Issues Concerning Comprehensively Deepening Reforms", "Opinions on Accelerating the Development of Ecological Civilization", "Overall Plan for the Reform of Ecological Civilization System", explicitly

stating that "the pollutant discharge permit system should be improved". The concept of "green development" was raised at the Fifth Plenary Session of the 18th Central Committee of CPC in October 2015 among four other development concepts (innovation, coordination, openness and inclusiveness). It clarified that the focus should be given to improving the quality of the environment, the basic system of environmental governance be transformed, and the environmental protection system be implemented in the most stringent way.

Following the 18th Congress, President Xi Jin-ping has been promoting the ambition of building a beautiful China with ecological civilization and achieving sustainable development balancing economic development and environmental protection.¹⁷

In November 2016, the General Office of the State Council issued the "Implementation Plan for Pollution Control and Discharge Permit System" to set up a standard for the granting of permits and stricter environmental accountability of enterprises and public institutions. It also mentioned that the permitting system should provide a foundation for regulating stationary pollution sources, strengthening the control and regulation of discharges. Establishing the permitting system was important for the implementation of the spirit of the Party Central Committee, strengthening the accountability of polluters, and improvement of environmental quality.

The report of the 19th National Congress of CPC in October 2017 stated that "we must clarify polluter's responsibilities, and improve the systems of environmental credit evaluation, mandatory disclosure

16 <https://doi.org/10.1016/j.gloenvcha.2018.09.014> Ecological civilization (shengtai wenming) has been written into China's constitution as the ideological framework for the country's environmental policies, laws and education.

17 Pan Xiang-chao 2018 IOP Conf. Ser.: Earth Environ. Sci. 153 062067

of environmental information and heavy penalties and severe punishment”.

3.1.2 Scope of permit system

Following the introduction of the “Implementation Plan for Pollution Control and Discharge Permit System”, the then Ministry of Environmental Protection issued the “Catalogue for Classified Management of Stationary Pollution Sources (2017)”, “Interim Management Regulations on Discharge Permitting” (2017), and “Management Measures for Discharge Permitting” (Trial) (2018). It included 26 permitting technical specifications and initiated the granting of permits for 15 key industries such as steel and cement, and completed the building of a National Information Platform of Discharge Permitting Management. As of 31 December 2017, a total of 21,292 permits were granted in 15 industries including steel and cement, meeting the reform targets set by the “Water Ten” and “Air Ten” and completing the reform tasks assigned by the Central Party Committee and the State Council in 2017.

The Ministry of Ecology and Environment is speeding up the upgrading of the standards and regulations, drafting regulations for the permitting system management and appropriate technical specifications and emission standards systems, and carrying out special law enforcement and inspections to ensure that the permitting system is fully implemented. As required by the State Council, discharge permits covering all stationary sources of pollution will have to be granted by 2020.

The establishment of a permitting system, aligning various environmental governance systems such as environmental impact assessment (EIA) and total pollution load control, and integrating the data sources on environmental protection tax, environmental statistics, and emissions trading, is expected to improve the efficiency of environmental departments and exercise whole-process management over stationary sources and coordinated control over multiple pollutants. This will create a comprehensive “one-permit” governance system that is science- and law-based and digitalized.

The permitting system is designed to help both corporate polluters and law enforcement officers by narrowing down the scope of discretion by the latter. The enforcement officers are able to review the emission data and executive report, and upload targets, outcomes and decisions onto the permitting management information platform. The

punishment measures, ranging from continuous daily fines, production curtailment, production suspension and correction, termination of business and shutting down, are set in proportion to the gravity of the offences. Operators who commit environmental crimes are criminally liable. The permitting system enables Environmental departments to fully deliver their role in regulation.

3.1.3 Corporate environmental responsibilities

Data on releases are constantly changing, so the regulation of the processes has to change accordingly. The permitting system uses a data information platform, i.e. companies apply for and obtain permits on the platform, and report on their implementation of the permits on the platform. In this way information on corporate emissions and environmental governance is comprehensive and kept up to date.

As required by their permits, companies are obligated to clarify the type, quantity and release route of the pollutants they discharge. They are also required to keep an accurate and complete record of their environmental management and report to the environmental departments the monitoring data and the matching production activities, as well as the operation and maintenance of pollution control facilities, on a regular basis. At the same time, the environmental departments should disclose the monitoring results, making all kinds of emission data assessable to the public for their scrutiny and ensuring companies fulfil their environmental responsibilities.

In April 2019 MEE sought views on “Opinions on Effectively Guiding Enterprises to Observe Environmental Laws (Exposure Draft)”, which proposed to further enhance regulation and law enforcement for ecological and environmental protection, optimise ways of regulation and law enforcement, implement enterprises’ primary responsibility for ecological and environmental protection, guide self-discipline among enterprises and push legal compliance as the norm.

3.2 EXISTING LAWS AND REGULATIONS

The Regulation for Pollutant Discharge Permitting Administration is formulated in accordance with two types of superior laws, one is the laws on

environmental protection, and the other is the administrative and procedural laws.

At the national strategic level, the emission permitting system has been positioned at the core for regulating stationary sources. But implementation of the system relies on related laws and regulations.

3.2.1 Environmental Protection Law

Under Article 45 of Environmental Protection Law, revised and adopted by the standing Committee of the National people's Congress in April 2014, "the state shall, according to the law, apply a licensing system to the discharge of pollutants." Enterprises, public institutions, and other businesses subject to pollutant discharge licensing management shall discharge pollutants according to the requirements of their respective pollutant discharge licenses, and those without a pollutant discharge license may not discharge pollutants.

The first paragraph of this provision declares that the state will implement the pollutant discharge permitting system, providing not only the legal basis for the permitting system but also the prelude to the full implementation of the permitting system in China. The second paragraph stipulates that the pollution shall be discharged according to the permit and shall not be discharged without a permit. In this clause, however, the scope of the pollutant discharge permitting system includes "enterprises, institutions and other businesses subject to pollutant discharge licensing management", which is considered relatively broad and not specific enough.

3.2.2 Air Pollution Prevention and Control Law

The Law on the Prevention and Control of Air Pollution, revised and adopted by the standing Committee of the National people's Congress in August 2015, is the primary air pollution law. It stipulates that air quality standards and emission targets shall be set by MEE or local governments and violations of the law will be subject to fines. The goals for air pollutant emission control are set by the State Council. Local governments are permitted to set the emission control goals, for each entity, particularly the significant pollutant discharging entities, and issue relevant permits. The Integrated Emission Standards for Air Pollutants set emission standards for 33 pollutants and air pollutant emission standards for boilers, industrial furnace, and thermal-power stations. Local

authorities are encouraged to establish more stringent emission standards for air pollutants.

Article 19 stipulates:

"Enterprises and public institutions discharging industrial waste gases or toxic or hazardous air pollutants listed in the catalogue specified in Article 78 of this Law, business entities using coal heat sources for central heating facilities, and other entities subject to pollutant discharging licensing administration shall obtain a pollutant discharge license. The specific measures and implementation steps for pollutant discharge licensing shall be determined by the State Council."

This provision has specified the target institutions, and the wording such as "other entities subject to pollutant discharging licensing administration" has allowed for flexibility in implementation. Meanwhile, it is stipulated in this provision that "the specific measures and implementation steps for pollutant discharge licensing shall be determined by the State Council."

Article 62 of the Legislation Law stipulates: "Where a law explicitly requires a relevant state authority to develop specific provisions on specific matters, the relevant state authority shall develop such provisions within one year from the effective date of the law, unless the law provides otherwise for the time limit." Therefore, by involving the State Council, Article 19 plays a great role in speeding up the building of the legal framework of the pollutant discharge permitting system.

In 2019 MEE issued the Priorities of National Air Pollution Prevention and Control 2019, which set the overall goal for the air environment. In 2019 annual average PM_{2.5} concentrations in cities that have not met relevant standards across the country will decrease by 2% year on year and the average proportion of days with excellent and good air quality in cities at the prefecture level and above will reach 79.4%. Total SO₂ and NO_x emissions will drop by 3% year on year. In 2019, regulation over the steel industry was identified as a key part of air pollution prevention and control. Local governments also released their respective action plans for the year.¹⁸

18 <https://www.iisd.org/sites/default/files/publications/cciced/agm/cciced-progress-report-2019-en.pdf>

3.2.3 Water Pollution Prevention and Control Law

The Law on the Prevention and Control of Water Pollution, revised and adopted by the standing Committee of the National people's Congress in June 2017, covers water pollution associated with industrial, urban, agricultural and rural activities, and the Implementing Rules of the Law of the PRC on the Prevention and Control of Water Pollution details. Under the Law on the Prevention and Control of Water Pollution entities are not allowed to discharge industrial and medical effluents without first obtaining a permit from the government. Entities that perform the centralised treatment and disposal of urban effluents must also obtain permits in advance as well.

An amendment to the Law in 2018 places special focus on agricultural water waste and drinkable water safety, while also increasing the cost of violation to a maximum of 1 million yuan.

Article 21 of the Water Pollution Prevention and Control Law, stipulates that

“An enterprise or public institution which directly or indirectly discharges industrial waste water or medical sewage to waters or waste water or sewage that may be discharged after a pollutant discharge license is obtained as required, shall obtain a pollutant discharge license. An entity operating facilities for the centralized treatment of urban sewage shall also obtain a pollutant discharge license. The pollutant discharge license shall specify the types, concentration, total discharge and discharge direction of water pollutants, etc. The specific measures for the pollutant discharge license shall be prescribed by the State Council.”

“All enterprises and public institutions and other producers and dealers are prohibited from discharging the wastewater and sewage as prescribed in the preceding paragraph to waters without a pollutant discharge license or in violation of the provisions of the pollutant discharge license”.

The institutions to be regulated by the permitting system are specified in this provision. The wording such as “other enterprises, institutions and other producers and operators that should obtain sewage discharge permits in accordance with the relevant provisions” has allowed for flexibility in implementation. This provision also made it clear that the discharge permit must clarify the type, concentration, total amount and the whereabouts of the water pollutants discharged.

3.2.4 Pollutant Discharge Permitting Administration

The Measures, decree No. 48, issued by the Ministry of Ecology and Environment on January 10, 2018, was a departmental regulation and was regarded as the extended and upgraded version of the Interim Provisions on the Administration of Pollutant Discharge Permits. It has provided for specific procedures regarding the application, review, modification, renewal, revocation, cancellation, re-granting as a result of loss of the permit etc. Given the legislative mandate of the departmental regulations, it has specified the legal liabilities of environmental protection departments, pollutant discharge entities and third parties. The introduction of the Measures was a solid step towards the successful reform of the discharge permit system.

The Measures provide for five systems of control: the enterprise's commitment; self-monitoring; environmental management record keeping; report implementation; and information disclosure. The enterprise's commitment and responsibility for the authenticity, integrity and legality of the information in the application are an important prerequisite for the enterprise to obtain a pollution discharge permit.

Self-monitoring, record keeping of environmental management and report implementation, provide the basis for a pollutant discharge unit to check whether it has met standards, identified problems arising from operation, and to work out its actual emissions. This information is vital for companies to prove compliance as well as for environmental protection departments to verify if enterprises meet standards and act in accordance with their permit. The information disclosure system can further raise the operator's awareness of their performance in accordance with the permit and enable the public to scrutinize the corporate polluters.

To support the granting of permits, the Classification Management Catalogue to Pollutant Emission Permit for Stationary Sources of Pollution (2017) specified the type of industries subject to the permitting system, the situation in different industries, the timeframe for pollutant discharge units to discharge in accordance with the permits and specific requirements on classification management. The Catalogue covers 32 major categories, 78 subcategories or groups and 4 common procedures included in “Industrial Classification for National Economic Activities”. It also covers key industries subject to “Water Pollution Prevention and Control Action

Plan” and “Air Pollution Prevention and Control Action Plan”, as well as key industries for the comprehensive prevention and control of heavy metal pollution. Therefore, the basic requirements for stationary sources of air and water pollution during the “13th 5-year plan” can be satisfied. The Catalogue will be updated to meet the developing needs of public engagement and environmental management.

3.2.5 Interim Provisions on the Administration of Pollutant Discharge Permits

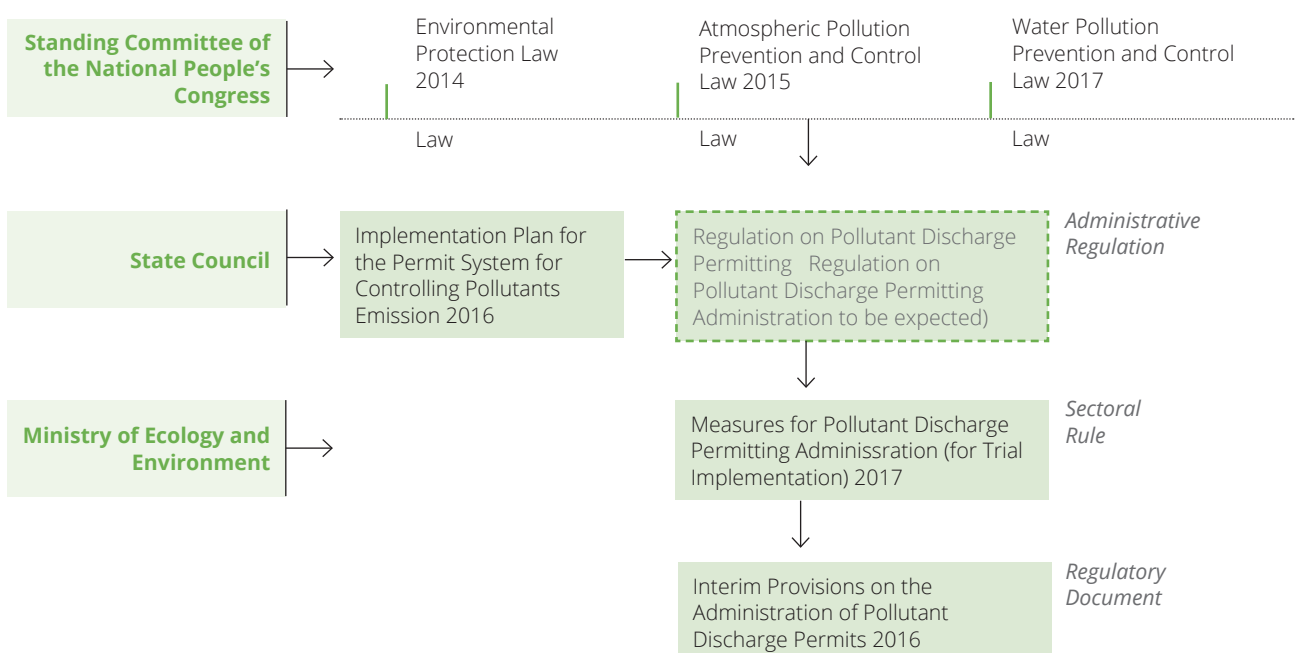
On 23 December 2016, for the purposes of effectively implementing the Implementation Plan for the Permission System for Controlling the Discharge of Pollutants (No. 81 [2016], General Office of the State Council), the Ministry of Ecology and Environment (MEE) developed the Interim Provisions on the Administration of Pollution Discharge Permits, the first document for the management of pollution discharge permits in China. It set uniform standards for the procedures for application, examination, issuance and administration of pollution discharge permits. It currently guides the application and granting of permits and is expected to lay the foundation for the formulation of management measures and regulations.

In the current environmental protection system, the Environmental Protection Law, the Law on the Prevention and Control of Air Pollution and the Law on the Prevention and Control of Water Pollution make it clear that the state should implement the permitting system. However, the Law on the Prevention and Control of Environmental Pollution by Solid Waste and the Law on the Prevention and Control of Noise Pollution have not yet specified the implementation of the permitting system, so it is impossible to provide for the permitting of solid waste and noise discharges in lower-level laws. Therefore, to put in place the permitting system with “coordinated control of multiple pollution sources” and “one-permit management, it is necessary to revise the current laws on pollution by solid waste and noise.

Structurally, the current legal requirements for discharge permitting are far from complete.

The Environmental Protection Law, the Law on Prevention and Control of Air Pollution and the Law on Prevention and Control of Water Pollution, adopted by the Standing Committee of the National People’s Congress, only make declaratory provisions on discharge permitting, and further refining of specific rules and laws is needed. At present, the Interim Provisions on the Administration of Pollutant Discharge Permits issued by the Ministry of Ecology

Development of Permitting Law



and Environment are normative documents. Although the Measures for Pollutant Discharge Permitting Administration (for Trial Implementation) are departmental regulations, it is lower-ranked in the legal system. The legislative authority and the intensity of punishment need to be further strengthened by the upper law. Therefore, it is important to speed up the formulation and implementation of Regulations on the Administration of Pollutant Discharge Permits. This regulation has been drafted by MEE and submitted to the State Council for approval. It is expected to be released in 2020.

3.2.6 REGULATIONS ON THE ADMINISTRATION OF POLLUTANT DISCHARGE PERMITS

Laws and regulations for discharge permitting

Date	Legislation	Effect
April 2014	Environmental Protection Law	Applies a licensing system to the discharge of pollutants
August 2015	Law on Prevention and Control of Air Pollution	Sets air quality standards and emission targets
June 2017	Law on Prevention and Control of Water Pollution	Entities are not allowed to discharge industrial and medical effluents without first obtaining a permit
December 2016	Interim Provisions on the Administration of Pollutant Discharge Permits	Set uniform standards for the procedures for application, examination, issuance and administration of pollution discharge permits
January 2018	Measures for Pollutant Discharge Permitting Administration (for Trial Implementation)	Specify the permit granting procedures and the division of responsibilities between the environmental departments, discharging units and the third-party institutions
December 2018	Draft Regulations on Pollutants Discharge Permit Administration	Strengthen legislation on the permitting of the discharge of pollutants
Expected 2020	Regulations on the Administration of Pollutant Discharge Permits	

3.3 RELEVANT PROVISIONS IN THE ADMINISTRATIVE LICENSE LAW

Under the Measures for Pollutant Discharge Permitting Administration (for Trial Implementation) a discharge permit is an administrative license with legal significance. Under Article 12, an administrative license may be established for any of the following matters:

- » a. The special activities that directly bear on state security, public security, macro-economic control, ecological environment protection, and those activities directly related to human health, safety of life and property, which shall be approved according to the legal requirements
- » b. The development and utilization of the limited natural resources, allocation of public resources and the market entry of the special trades that directly concern public interests, which shall be entitled with special rights
- » c. The vocations and trades that provide public services and directly relate to the public interest, which need qualification of special credit, conditions or skills
- » d. The important equipment, facilities, products, articles that directly concern public security, human health, the safety of life and property, which shall be examined and approved by means of inspection
- » e. The establishment of enterprises or other institutions, where the scope of their business and qualifications needs to be specified
- » f. Other matters, for which administrative licenses may be established in accordance with the laws and regulations

A discharge permit falls into the first category of activities for the purpose of environmental protection. For enterprises, institutions and other producers and operators who have legally obtained pollution discharge permits, permitting is a kind of "authorization" and emissions are only allowed with a permit. But for those who have not obtained a permit, permitting is a kind of "restraint on power", meaning any emissions without permits are prohibited.

The environment is seen as a kind of natural resource accessible by the public but at the same time is limited and scarce. The environmental departments' protect the environment through legal

authorization from the permitting system, i.e. regulating the behaviour of enterprises, institutions and other producers and operators, controlling pollutant emissions, and reducing environmental pollution and ecological damage, thus are protecting the interests of citizens and safeguarding public interests.

Under Article 14, administrative licenses may be established by means of law. Where there is no governing law, administrative licenses may be established by means of administrative regulations.

Under Article 16,

“an administrative regulation may have specific requirements for the implementation of an administrative license within the scope of the matters prescribed by a statutory administrative license.”

“A local regulation may, within the scope of the matters of administrative license established by the laws and administrative regulations, make specific requirements for the implementation of the administrative license. The regulation may make specific requirements for the implementation of the administrative license within the scope of the matters established by the upper law. The regulations and rules shall not make specific requirements for the implementation of the administrative license set down by the upper law, shall not increase the scope of the administrative license, and for the specific conditions of the administrative license, they shall not establish any other condition in violation of the upper law.”

Therefore, it can be concluded that the law has the power to set up the pollution discharge permitting system. Regulations and rules only have the power to set up specific requirements within the scope of the pollution discharge permitting system set by the upper law. However, no conditions that are in contradiction to the upper law shall be included into the regulations and rules relating to pollution discharge permitting system.

3.4 LOCAL REGULATIONS

The permitting system has been in use at local level for 30 years, during which two major types of legislative experience have been developed.

- » a. special legislation for local permitting management and specific implementation rules at all

administrative levels, including provincial, municipal and county levels

- » b. the local comprehensive regulations which only set principles for permitting system

The legislative experience at local levels provided the basis for drafting the Management Regulations.

Local Regulations

Local Special Legislation on the Permitting
The Detailed Implementation Rules on Emission Permitting Management of Shanghai (2017)
Management Measures for Emission Permitting Trials of Hainan (2017)
Management Measures for Emission Permitting of Jining (2017)
The Detailed Implementation Rules on Emission Permitting Management of Henan (2017)
Interim Management Measures for Emission Permitting of Qinghai (2017)
The Detailed Implementation Rules on Emission Permitting Management of Guangxi (2017)
Interim Management Measures for Emission Permitting of Zhejiang (2015)
Management Measures for Emission Permitting of Jiangsu (for Trial Implementation) (2015)
Interim Management Measures for Emission Permitting of Liaoning (2015)
Management Measures for Emission Permitting of Guangdong (2014)
Interim Management Measures for Compliance with Emission Permitting of Hebei (2014)
Management Measures for Emission Permitting of Fujian (2014)
Interim Management Measures for Emission Permitting of Sichuan (2013)
Management Measures for Emission Permitting of Gansu (2013)
Interim Management Measures for Emission Permitting of Hunan (2003)

In addition, some municipalities have also enacted legislation on emission permitting, such as the “Management Measures for Emission Permitting of Qingdao” (2016) and the “Management Measures for Emission Permitting of Baotou (2012).”

Administrative, Procedural and Environmental Laws

Administrative and Procedural law

- The Legislation Law
- The Administrative license Law
- The Administrative Litigation Law

Environmental law

- The Environmental Protection Law
- The Law of environmental Impact Assessment
- The Water Pollution Prevention and Control Law
- The Soil Pollution Prevention and Control Law
- The law of the Prevention and Control of environment Pollution Caused by Solid Wastes
- The Law of Prevention and Control of Pollution from environmental Noise

3.5 CURRENT POLICY DOCUMENTS

The origin of China's permitting system can be traced back to the 1980s. Due to the lack of top-level design, unclear positioning, incomplete supporting laws, little progress was made in building the system. Since the 18th CPC National Congress, the principle of ecological civilization has been elevated to a strategic level. At the national strategic level, the pollution discharge permit system, integral to the delivery of ecological civilization, has also received unprecedented attention.

In November 2013, the CPC Central Committee made it clear in "The Decision on Major Issues Concerning Comprehensively Deepening Reforms"¹⁹ that "we will improve the pollutant discharge permit system and implement total quantity control system of pollutants emission". This was the first time improving the permitting system was mentioned at a central-level decision. Particularly, it appeared in the Chapter on reforming the environmental protection management system, showing how significant the permitting system is for the overall reform scheme.

In April 2015, the CPC Central Committee and the State Council stated in the "Opinions on Accelerating the Building of Ecological Civilization"²⁰, "Overall Plan for the Reform of Ecological Civilization System" that "we will improve the system of licensing for pollutant emissions and prohibit discharging pollutants

without a permit and beyond the scope of stipulated standards or total amount. The facilities and equipment for discharging pollutants of organizations and individuals that illegally discharge pollutants, have caused or are likely to cause severe pollution, must be closed down and detained according to law".

It is also clarified in the "Integrated Reform Plan for Promoting Ecological Progress" that "we will improve the pollutant emissions permit system".²¹ A unified and fair business emissions permit system covering all stationary pollution sources was to be established quickly nationwide. Emissions permits will be issued in accordance with the law. Emission of pollutants without a permit or in violation of a permit will be prohibited. Improving the permitting system once again appeared in the document. It specifically mentioned prohibiting the emission of pollutants without a permit or in violation of a permit and setting up a permitting system that covers all stationary pollution sources. The subsequent chapters of the document mentioned improving relevant laws and regulations to lay out specific measures to implement and improve the permitting system.

In March, 2016, the National Peoples' Congress adopted the Outline of the 13th Five-Year Plan for the National Economic and Social Development of the People's Republic of China, saying, "we will institute integrated control and unified monitoring of multiple pollutants, establish a business emissions permit system that covers all fixed pollution sources, and put the regulation of the discharge of all pollutants under one emissions permit". Building on from "covering all stationary pollution sources", "one-permit" management and integrated regulation over multiple pollutants has been established. Therefore, the fundamental goal and mission of the permitting system have been established.

In November 2016, the General Office of the State Council issued the "Implementation Plan for Controlling Permitting system"²², promoting the standardized and orderly granting of emission permits, and the stricter environmental accountability of enterprises and public institutions. It also proposed to build the emission permitting system into the foundation for regulating stationary pollution sources, which is of great significance for strengthening the control and regulation of emissions. Establishing

19 http://www.china.org.cn/china/third_plenary_session/2013-11/16/content_30620736.htm

20 https://environmental-partnership.org/wp-content/uploads/download-folder/Eco-Guidelines_rev_Eng.pdf

21 http://www.china.org.cn/china/Off_the_Wire/2015-09/21/content_36644574.htm

22 https://www.chinadaily.com.cn/china/2016-11/29/content_27512310.htm

the emission permitting system was important for the implementation of the spirit of the Party Central Committee, strengthening the accountability of polluters, and the improvement of environmental quality.

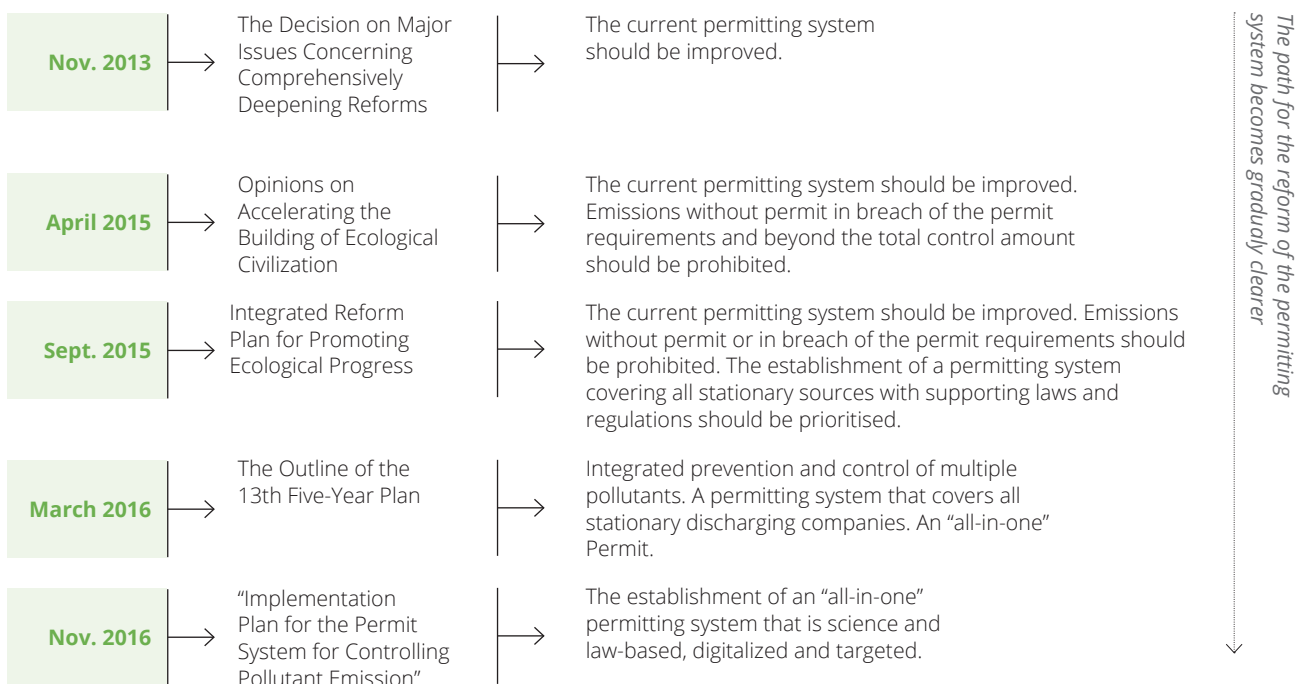
The “Notice of the General Office of the State Council on Issuing the Implementation Plan for the Permit System for Controlling Pollutants Emission” laid out the targets for the permitting system: By 2020 the following are to be achieved.

- » a. The issuing of emission permits covering all fixed pollution resources will have been completed
- » b. The national emission permit management information platform will be in efficient operation
- » c. Various environment management systems will have been consolidated and connected
- » d. The primary responsibility of enterprises and public institutions for environmental protection will have been implemented
- » e. An emission permit system featuring complete legal system, scientific technical systems and efficient management systems will have been basically established

- » f. Fixed pollution regulated resources will have been subject to whole-process management and concerted multiple pollutants control
- » g. The systematic, scientific, legal, elaborate and information-based “one-permit” management will have been realized
- » h. The overall objective, targets and timeline for making a start to the permitting system reform nationwide will have been achieved

Green development was raised at the Fifth Plenary Session of the 18th Central Committee of CPC as one of the five development concepts. To be more specific, it was said that the focus should be given to improving environmental quality, the basic system of environmental governance should be reformed and the most stringent environmental protection system should be implemented. The report of the 19th National Congress of CPC clearly stated that “we must ensure the polluters will be held liable and the systems of environmental credit assessment, mandatory disclosure of information and severe punishment should be tightened”.

Timeline for Polices Relevant to the Permitting System



4. The Current Pollutant Discharge Permitting System

4.1 EVOLUTION OF THE AIR AND WATER EMISSION PERMITTING SYSTEM

China's intention to build an emission permitting system can be dated back to the 1980s. At the beginning of 1988, the then National Environmental Protection Administration held the "Municipal Meeting on Water Permitting Piloting Program" in Beijing. At the meeting, the purpose and significance of the piloting program were elaborated and the "Interim Management Measures of Water Permitting" was formulated, which set targets and requirements for the trial. In 1989, at the Third National Environmental Protection Conference, the emission permitting system was officially established as one of the eight basic institutions for environmental management. The National Environmental Protection Administration introduced the "Work Plan for the Trial of Air Permitting", and established 23 key environmental protection cities including Shanghai, Xuzhou and Jinhua and a few provincial environmental protection bureaus to trial the system and inspection.

From 1991 the National Environmental Protection Administration trailed the regulation of air pollutants and permitting of releases to air in 16 cities. With the increasing importance the state attached to environmental issues and building on earlier legislation and practices, the Ninth Five-Year Plan for the National Economic and Social Development and the Outline of Vision for 2010, adopted by the National People's Congress in 1996, established total emission control as a major environmental protective measure in China. After a few years of implementing total emission control by permitting, the state began to embed this policy into law.

The current laws addressing emissions permitting are the Air Pollution Prevention Law 2000 and the Water Pollution Prevention and Control Law 2008 revised by the Standing Committee of the National

People's Congress. However, the two laws were seen as inadequate if emission permitting was to be established as a basis for environmental law. As the pilot program has grown both in scope and depth, many specific laws addressing emission permitting have been adopted at local level before any national legislation. Hangzhou Municipality, as an example, introduced Management Regulations on Emission Permitting in Hangzhou in 2008. Another example was Zhejiang Province which officially began to implement the "Interim Management Measures for Emission Permitting in Zhejiang Province" in July 2010. They further strengthened the governance of emission permitting, especially the total control of emissions, improving the mechanism for emissions trading, and contributing to effective pollution prevention and control in the long run.

4.2 PROGRESS ON THE POLLUTANT DISCHARGE PERMITTING SYSTEM

2015 was a turning point in the development of the emission permitting system. As air pollution increased from 2015 onwards, the control of fixed source emissions increasingly became the focus of the efforts by environmental departments. At that time, the then Ministry of Environmental Protection hosted four rounds of discussions on identifying new ways to tackle key ecological and environmental issues, to reflect on and improve the institutional framework and management systems, and to make a breakthrough in environmental protection.

The CPC Central Committee was also planning on an overhaul of the environmental protection system and working on stationary pollution source discharge permitting. The Third Plenary Session of the 18th Central Committee of the Communist Party of China, "Improving the Emission Permitting System" included the "Decision of the Central Committee of

the Communist Party of China on Some Major Issues Concerning Comprehensively Deepening the Reform". At the Fifth Plenary Session of the 18th Central Committee, "reforming the basic system of environmental governance and establishing a corporate emission permit system covering all stationary pollution sources" was mentioned in the "Proposal of the Central Committee of the Communist Party of China on the Development of the Thirteenth Five-Year Plan for National Economic and Social Progress".

On 11 September 2015, the "Overall Plan for the Reform of Ecological Civilization System"²³ adopted at the meeting of the Political Bureau of CPC Central Committee explicitly stipulated that "we must work to improve the emission permitting system and build a unified and fair corporate emission permit system covering all stationary pollution sources as soon as possible. Permits should be granted in accordance with the law. Discharges without permits or discharges except in accordance with regulations should be prohibited."

In April 2017, the then Ministry of Environmental Protection set up the Total Emission Control Office in charge of total emission control, emission trading and permitting, which laid the groundwork for building an integrated system to manage stationary pollution sources. It was also the first specific institution set up by Ministry of Environmental Protection to implement this system which it had been working on for years. This initiative sparked the development of laws, regulations and technical systems. In 2017 alone, the then Ministry of Environmental Protection facilitated the drafting and preparation of departmental regulations and emission permitting regulations, introduced technical specifications for applying and granting permits for more than ten industrial sectors, introduced guidance documents including the Catalogue for Classified Management of Emission Permitting, and ensured a standardised "National Information Platform of Emission Permitting Management" was up and running.

By the end of 2017 the concept of discharging in conformance with permits had taken hold. 2017 was the first year when large numbers of permits were granted. To finish granting permits as scheduled, the environmental protection bureaus in provinces and cities with the largest number of enterprises had to work day and night. The staff had to, on one hand,

teach themselves the spirit of the reform and the key points of technical documents at short notice and, on the other, instruct enterprises on permitting

The "Management Measures for Pollutant Discharge Permitting (For Trial Implementation)" introduced by the then Ministry of Environmental Protection in January 2018 specified the permit granting procedures and the division of responsibilities between the environmental departments, discharging units and the third-party institutions. It marked a step towards the reform and improvement of the permitting system.

At the National Environmental Protection Work Conference in February 2018, Li Ganjie, the Minister of Environmental Protection, raised for the first time the idea of "permitting industry, cleaning up industry, standardising industry, and securing compliance of industry", indicating that the competent authority should strive to get to the bottom of long unsolved issues through the permitting procedure and strive for environmental governance covering all pollution sources. As a result the permitting-based clean-up of stationary pollution sources proceeded. The Ministry of Environmental Protection adjusted the permitting scope to ensure all industries that should be permitted, were permitted, and an industry-wide coverage with permits was achieved.

While granting the permits, the teams in charge of verification and granting, and the teams providing technical support, have grown and matured. The major responsibility of companies, as pollutant dischargers, is becoming increasingly clear. Many enterprises have adjusted their internal environmental departments and corporate governance according to the permits. The market for permitting technology services is booming.

According to the "Opinions of the CPC Central Committee and the State Council on Strengthening Ecological Environment Protection and Resolutely Fighting the Uphill Battle of Pollution Prevention and Control" issued in June 2018, the establishment of the permitting system must be accelerated to ensure whole-process regulation over stationary pollution sources and collaborative control of multiple pollutants. The permits must be issued based on industrial sectors, regions and specific period. The enterprises' responsibilities of pollution control should be clarified and post-permitting regulation and punishment be strengthened. By 2020, the emission permitting system will have been established with the regulation of stationary pollution sources at its core and "one-permit" management will have been realized.

23 http://english.www.gov.cn/policies/latest_releases/2015/09/22/content_281475195492066.htm

On 5 November 2018, MEE published the draft Regulations on Pollutants Discharge Permit Administration. Public consultation ended on 6 December 2018. The draft consisted of 7 chapters: General Rules, Application and Issuance, Pollutant discharge by permit, Supervision and Management, Permit Change Renewal and Revocation, Legal Liability, Supplementary Laws.

The new draft strengthened the legislation on the permitting of the discharge of pollutants. In comparison with the Measures for Pollutant Discharge Permitting Administration (Trial) the regulation:

- » a. Increased the management on solid waste
- » b. Increased the management on pollutant emission to sea area under Chinese jurisdiction
- » c. Improved the management on pollutant emission classification

4.3 IMPLEMENTATION OF THE POLLUTANT DISCHARGE PERMITTING SYSTEM AT THE LOCAL LEVEL

Progress in Shandong, Hainan and Hebei Provinces is described.

4.3.1 Progress of implementation in Shandong Province

In 2017, in order to meet the standards and requirements set by the Ministry of Ecology and Environment, Shandong Province granted permits to a total of 2513 pollutant discharging units in 15 industries including thermal power, cement and steel.

In May 2018, the Environmental Protection Department of Shandong Province officially introduced the “Supervision Measures for the Implementation of the Emission Permitting System in Shandong Province (for Trial Implementation)”, aiming at strengthening the supervision and inspection, enhancing the permit-based enforcement, and clarifying the accountability of pollutant discharging units.

Under the “Supervision Measures for the Implementation of the Emission Permitting System in Shandong Province (for Trial Implementation)”, any non-compliance discovered during inspection shall be subject to punishment in accordance with the law. Environmental crimes shall be dealt with by the

public security organisations according to the law. In accordance with the requirements of information disclosure, the information on the implementation of the emission permitting system will be recorded in the National Information Platform of Emission Permitting Management. The list of enterprises subject to supervision and law enforcement, and the list of enterprises discharging pollutants without permits or not in conformance with permits, shall be made public in a timely fashion. The environmental protection departments at all levels shall regularly report the results of site inspection and record any violation of pollutant discharge limits on the Information System of Enterprise Environmental Credit Evaluation in Shandong Province and make a public example of such violations.

At the same time, environmental protection departments at a higher-level shall supervise the work of the departments at a lower-level and, if any problems were discovered, issue a supervision feedback letter or inspection opinion letter to instruct the supervised to right the wrong within a limited period of time; any violation of the law shall be notified to the department for appropriate action. The results of inspection by higher-level departments over the lower-level departments have been incorporated into the provincial environmental protection system, which serves as an important basis for the annual assessment of environmental protection departments.

From spot checks, law enforcement officers have found that most of the pollutant discharging units that have obtained permits, have been able to monitor themselves, and submitted reports on the implementation of permits on time. However, much has to be done in supervision and management in the following areas:

- » a. Under relevant regulations, the original of the permit shall be displayed in a conspicuous position for public access at the production site.
- » b. The content and frequency of self-monitoring by the pollutant discharging unit shall be consistent with the content of the permit. Activities are prohibited if self-monitoring is not undertaken.
- » c. The pollutant discharging units shall set up an environmental management ledger in accordance with the requirements to record the operation status of the main emission-associated facilities and the pollution prevention facilities and management information.

- » d. Where the environmental protection department hasn't made a decision on a request for a permit change for a pollutant discharging unit, the latter shall stick to the original requirements in terms of self-monitoring. The content and frequency shall not be changed at will.
- » e. Under the requirements of information disclosure, the pollutant discharging units shall promptly disclose the emission information in a way readily accessible for the public to access. Information disclosure shall go beyond internal information sharing.

4.3.2 Progress of implementation in Hainan Province

Since the implementation of the emission permitting system in Hainan, corporate awareness of environmental protection has been significantly raised, the control over industrial pollution has been significantly strengthened, and the total emissions have been reduced markedly. However, the overall implementation of the emission permitting system is still far from satisfactory.

The positive outcomes achieved are:

- » a. Enterprises are becoming ever more environment-conscious
- » b. Environmental governance in Hainan Province has been brought up to a new level. Technological advances have been made by limiting the pollutant discharges
- » c. Overall reduction of total pollutants has resulted in an improvement of environmental quality

In the "Work Plan for the Trial of Permitting Key Industries and Discharges into Drainage Basin (draft for comments)", the environmental protection department of Hainan Province was selected as the piloting unit to lead and participate in verifying and granting permits for key industries. During the trial period of 2017, Hainan Province accumulated a large amount of governance experience in experimenting with the emission permitting system and set a good example for other provinces to follow.

Hainan Province granted 33 permits in 2015, 31 in 2016 and 57 in 2017 covering 15 polluting industries. 2017 saw a sharp rise in the number of permits granted in Hainan, indicating that Hainan actively responded to the call of the Ministry of Ecology and

Environment, implemented the "Work Plan for the Trial of Permitting Key Industries and Discharges into Drainage Basin (draft for comments)", and fully implemented the permitting scheme.

As early as April 10, 2013, the Hainan Provincial Department of Ecology and Environment issued a document on the permitting scheme, "Permit Granting (at provincial level) in Hainan 2012". Starting from there, 29 documents on emission permitting have been issued in total. 27 of the 29 (93%), were related to the application, granting and review of permits. 20 relevant documents were issued between 2016-2018, accounting for 69% of the total number of documents issued.

However, the overall implementation of the emission permitting in Hainan Province was far from satisfactory. There was still much room for improvement mainly in the following aspects:

- » a. Progress of permitting province-wide remains slow, hence the low permitting rate
- » b. Emission permitting hasn't been effectively linked up with the system of total emission control
- » c. Regional environmental quality hasn't been improved markedly despite the implementation of the emission permitting system

4.3.3 Progress of implementation in Hebei Province

In order to implement the State Council's "Implementation Plan for Controlling Emission Permitting System", under the "Interim Regulations on the Management of Emission Permitting System" of the Ministry of Ecology and Environment and the "Notice on Carrying out the Management of Emissions Permitting System for Thermal Power, Papermaking and Elevated Source in Cities of Beijing-Tianjin-Hebei Area" (Huanshuiti[2016] No. 189), "Working Plan for the Trial of Emission Permitting System Management in Key Industries" (Huanbancaihan [2017] No. 787), By December 29 2017, Hebei Province had completed granting permits to 15 industries, including thermal power, papermaking, steel and cement.

By December 29 2017, a total of 1,106 permits covering 15 key industries were granted, and 461 applications were rejected. Among those who obtained the permits, 94 were from thermal power industry, 209 from papermaking industry, 179 from steel industry,

186 from cement industry, 24 from flat glass industry, 27 from petrochemicals industry, 31 from coking industry, 14 from nitrogen fertilizers industry, 102 from printing and dyeing industry, 44 from raw materials industry, 60 from tanning industry, 67 from electroplating industry, 59 from pesticides industry, and 10 from agricultural and by product processing.

The top three cities in terms of quantities of permits granted were Tangshan, Baoding and Shijiazhuang, which had granted 203, 159 and 158 permits respectively. The two cities that completed issuing and verifying first in the second half of 2017 were Langfang and Qinhuangdao.

The permitting trial program covered a total of 13 key industries across the country, and Hebei Province took on nearly one-quarter of the task. Tangshan, Shijiazhuang and Xingtai were chosen as piloting cities for steel, bulk pharmaceutical chemicals manufacturing and flat glass industry. Under the pressure of granting permits within the administrative region, the three cities still managed to grant permits for key industries of the trial plan on time, and establish a model for permit application and issuance that could be replicated in other parts of China.

There are a few cases where a lack of commitment from the municipal leadership has led to slow progress in implementing the permitting system: the division of labour was not clear, the coordination and cooperation was inadequate, and there was no holistic guidance and effective service for the county and enterprises. Despite on-site guidance by the provincial environmental protection departments, progress was still sluggish, which seriously dragged the progress of permitting 15 industries province-wide.

A total of 461 permits were denied mainly for the following reasons:

- » a. 96 enterprises had already gone ahead with construction without permitting,
- » b. 286 enterprises were under production suspension or emergency shutdown in winter
- » c. At 33 enterprises the production capacity of the enterprises was inefficient and should be replaced
- » d. 17 enterprises were denied permits for other reasons and another 29 companies did not belong to the 15 specified industries

5. Problems and Challenges Facing the Current Pollutant Discharge Permitting System

At meetings and workshops held with national and local environmental regulators, administrators, business representatives and other organisations there was strong wide support and encouragement for the development and implementation of the Pollutant Discharge Permitting System. The issues raised divided between concerns around the delivery and enforcement of any regulatory system and issues specific to the permitting system and it was being developed and implemented. Described below are the principle issues of concern relating to the permitting system in the words of those raising the concern.

5.1 DESIGN OF THE CURRENT PERMITTING SYSTEM

The emission permit is a licence to operate. It may be issued following an application from the discharging unit after verification, and allows discharges in accordance with the permit conditions. Many local officials tend to equate an emission permit with an identity card or "ID" granted by an administrative body to eligible enterprises after screening, and find it hard to understand that a permit should be more than an administrative document.

The analogy between a permit and an ID card is inappropriate. An ID card can be acquired without any requirements or prescribed conditions. An ID card is only used for registration, not for performance control. It is important to clarify this misunderstanding as it sets the legal basis of the design of the permitting system. The discharging unit cannot operate without a permit and it must comply with the conditions set in the permit.

5.2 THE PERMITTING SYSTEM CONTAINS MANY ADDITIONAL FUNCTIONS

The highly-anticipated permitting system that controls pollutant discharges is at the core of stationary pollution source management. During field trips to local authorities, many local officials said that the current permits contain too many additional functions. It is unrealistic to expect that the introduction of the new system will resolve the perennial problems of the past. For example, the data for emission permitting management ideally should be linked with the environmental monitoring data, environmental statistics, environmental taxes, etc. However, the problem of integrating "data coming from different departments" has remained unsolved for many years. It is very difficult to integrate the source of all data in the new system.

Another function of the permitting system is to clean up illegal projects. In 2014, the "Notice of the General Office of the State Council on Strengthening Environmental Supervision and Enforcement" required the completion of clean-up and remediation of projects in violation of the environmental protection law, by the end of 2016. The clean-up remained unfinished at the end of 2016, with a large number of illegal projects falling off the radar. Although the permitting system can be a powerful tool for governance, cleaning up illegal projects was not its prime purpose.

5.3 REVIEW OF THE PERMIT APPLICATION

Given the enormous amount of work required to grant thousands of permits within an extremely tight timeframe, currently, the law only requires the review of paperwork and site inspection is not

mandatory. Local officials have complained that the officers must assume responsibility for verifying and granting permits, but the identification and division of responsibilities remains unclear.

In order to avoid accountability for any permitting mistakes, officers take pre-emptive action by instructing the discharging units to apply for permit. For example, in order to ensure the quality of permits granted, the competent authority in Guangdong stepped in at an early stage and undertook pre-verification of discharging units. Until the authority was sure that all the documents met the standard, it gave the go-ahead to the discharging units to officially apply online. It was an arrangement designed to avoid rejection and resubmission, and avoid accountability for any possible mistakes.

Another example is Guangxi. With little experience in permitting, the competent authority gathered applicants together and hosted a training session on application procedures in order to guarantee the orderly issue of permits. The competent authority even visited those lacking technical personnel and those reluctant to cooperate and offered assistance in filling in the application forms. However, this practice could be seen as environmental protection departments applying for a permit on behalf of the discharging unit and could lead to problems. Any discharging unit could file a protest on the grounds that “the environmental protection department forced us to apply for a permit against our will”.

5.4 BURDEN ON LOCAL DEPARTMENTS

2017 marked the first year for national permitting system management. More than 20,000 permits were issued nationwide covering 15 industries. However, the achievement is a result of the push from central government and the local government looking after the enterprises by offering help with permit applications. It has led to three problems:

- » a. The environmental protection departments at local levels have been burdened with a heavy workload. Some have had to borrow human resources from other departments to meet the target.
- » b. Application, verification and issuing of permits has been transferred to the local environmental protection departments. Applications should be made by the discharging units themselves. But the environmental protection departments have

had to take over the job due to the encouragement by central government to meet quotas for permits issued.

- » c. Speed is achieved at the cost of quality. In Liuzhou, where the resources were very limited, it was later found that the contents of about 70% of the permits issued were wrong. This may be expected to cause a lot of difficulties for law enforcement.

5.5 TOO MUCH INFORMATION FOR PERMIT COMPLETION

The application document contains up to 18 pages of forms to fill in. In the past, a record-breaking permit with 1,700 pages was once issued. Most of the content is unrealistic from an enforcement perspective.

It is hard to develop a technical specification for permit application and verification. Each industry has its own technical specification set by different entities which are difficult to understand even by the experienced officers from environmental protection departments. It is impossible to ask the issuing personnel to master all the technical specifications of all industries. More problems will arise from using the specifications to instruct and guide discharging units.

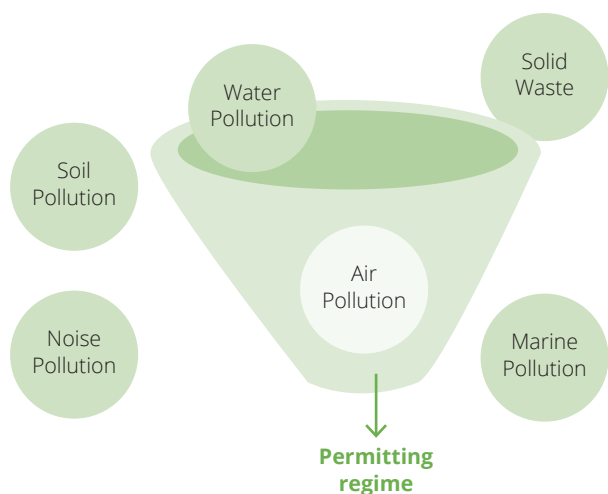
It is difficult for issuing personnel to follow the technical training. Many trainees say that more than 90% of the training on industrial technical specifications has been lost on them, as the trainers, most of whom are experts within an industry, won't go into details about the techniques, as they assume these are common knowledge.

5.6 GAP IN ACHIEVING FULL COVERAGE IN THE CURRENT PERMITTING REGIME

The “Implementation Plan for Permitting System of Emission Control” required that the permitting system should cover all pollution sources step by step. Air pollutants and water pollutants should be regulated by the system. Other pollutants should be introduced into the system gradually, in accordance with the law. However, Article Eight of the Management Measures only stipulated that “in accordance with the law, environmental authorities should

manage the discharge of water pollutants and air pollutants based on the permit regime". Throughout the texts of the Management Measure, there are only requirements on air and water pollutants. Other pollutants are not covered – the management and control of soil pollution, marine pollution, noise pollution and solid waste pollution are, effectively, left out of the current regime and the gap to achieve full coverage remains.

The Scope of the Permitting Regime



According to the first and the second paragraphs of the Article Five of the Management Measures:

"Pollution discharging entities generating or discharging high-volume pollutants or highly detrimental to the environment shall be placed under priority pollutant discharge permitting administration, and the others shall be placed under summary pollutant discharge permitting administration. The specific scope of pollutant discharging entities under priority pollutant discharge permitting administration or those under summary pollutant discharge permitting administration shall be governed by the classification administration list of pollutant discharge permitting for stationary pollution sources. The content and requirements of the application of priority administration and summary administration shall be governed by the relevant technical specifications and guidelines relating to pollutant discharge permitting as described in Article 11 of these Measures."

However, in this case, discharging units with few emissions or low levels of damage are not included in the system.

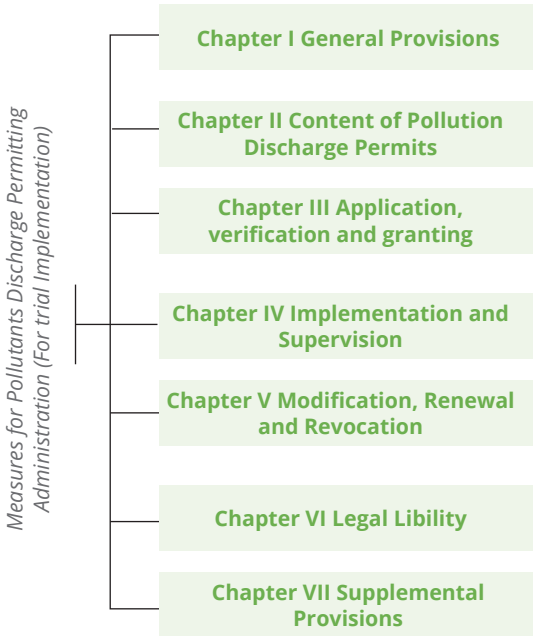
5.7 APPLICATION PROCEDURES OR DESIGN, SUPERVISION AND MANAGEMENT

According to the Implementation Plan, "the verification and granting of permits for all stationary pollution sources should be completed by 2020". To achieve this objective, in the "Management Measures for Pollutant Discharge Permitting" for trial implementation was developed based on the previous "Interim Rules for Pollutant Discharge Permitting", with adjusted management principles. The "Measures" first address the procedures for permit application and issue to make sure the rules are universally applied, law-based and orderly. Therefore, the "Measures" focus on the permit granting procedures with detailed and practical requirements.

However, the "Measures" was enacted at a time when China's environmental protection institutions and systems were undergoing fundamental changes as part of China's "deepening reform plan". As a result, many systems were being reformed in tandem but the overall top level design for the permit system was lacking, so were the mechanisms that should be in place to connect the permit system with other systems such as the EIA. In addition, local authorities had zero experience in permit inspection and enforcement. The current Measures, with only detailed procedures for permit granting and verification, cannot provide sufficient guidance to local law enforcement authorities.

The "Measure" contains 68 articles divided into seven chapters. Among them, 30 articles in Chapter II, Chapter III, and Chapter V are procedural requirements. There are eight articles in Chapter I, covering different aspects of the institutional structure of the permit regime, including the scope covered by the permits, the timeframe for permit application, division of responsibilities in cross-jurisdiction cases, authorities of competent departments, sector-based permit management, integrated permit, and the use of unified coding in permit administration. The chapter also established the "discharge with permit" approach. However, in this chapter, mechanisms to connect the permitting system with other systems are missing. Chapter IV contains 10 articles on implementation and supervision – keeping of the permits, monitoring and reporting, record-keeping, emission measurement, enforcement report, inspections, access to information, third-party service, supervision authority and public participation. However, the rules for supervision and enforcement inspections are too general to be operable, failing to provide any guidance for supervision and management at operation level.

Management Measures for Pollutant Discharge Permitting



5.8 GAP IN LEGAL LIABILITIES

There are certain articles on legal liabilities in the “Measures” currently in effect. However, those are existing ones from the “Environmental Protection Law”, the “Law on Air Pollution Prevention and Control” (Air Law) and the “Law on Water Pollution Prevention and Control” (Water Law). Rules for the liabilities which apply if one fails to observe permit requirements and conditions, or fails to carry out effective environmental management, are not in place. As a result, in some cases, even if an operator was found violating the rules in the “Measures”, it is impossible to impose penalties on him.

Most legal liabilities are derived from other laws. There are nine articles on legal liabilities in the “Measures”. Among them, new legal liabilities stipulated are as follows:

Article 52: legal liabilities of competent environmental authorities and the person-in-charge, and directly liable persons, for any violations of the rules on their permit management duties

Article 53: legal liabilities of operators who conceal relevant information or provide false documents

Article 54: legal liabilities of those who fail to apply for modification of their pollutant discharge permit

in a timely manner, or those who fail to apply for a new pollutant discharge permit in a timely manner,

The rest of the six articles from Article 55 to Article 60 are existing ones from the “Environmental Protection Law”, the “Law on Air Pollution Prevention and Control” and the “Law on Water Pollution Prevention and Control”. Hence, only three out of nine articles on legal liabilities are new rules (one third), the rest are derived from other legal requirements.

5.9 LACK OF LEGAL LIABILITIES IN PROHIBITIVE OR COMPULSORY REQUIREMENTS

Although there are prohibitive and compulsory requirements in the “Measures”, the lack of legal liabilities for failing to fulfil those requirements makes it difficult to implement and enforce them, for example:

“Article 33 Tampering with pollutant discharge permits shall be prohibited. The illegal alienation of pollutant discharge permits by lease, lending, sale or any other means shall be prohibited. A pollutant discharging entity shall display its pollutant discharge permit in the place of its production and business convenient for public supervision.

Article 35 (Paragraph 1) The information on the operation of main production facilities relating to pollutant discharge; if an abnormal situation takes place, the reasons and the measures taken shall be recorded.

Article 37 (Paragraph 1,2,3) A pollutant discharging entity shall prepare a pollutant discharge permit enforcement report according to the content and frequency of enforcement reporting as specified in the pollutant discharge permit.

Such a report may be made on a monthly, quarterly or annual basis.

A pollutant discharging entity shall complete, submit, and disclose to the public an annual pollutant discharge permit enforcement report on the National Pollution Discharge Permits Administration Information Platform and submit a hard-copy enforcement report generated through the National Pollution Discharge Permits Administration Information Platform to the issuing environmental protection authority. The hard-copy enforcement report

shall be signed or sealed by the legal representative or principal person in charge.”

All the above are legal requirements. However, there are penalty measures for violation of these requirements prescribed in the Liability chapter. As a result, even if an operator is caught in violation of the rules, the hands of the competent environmental authorities are tied to imposing the specified penalties on him, not any other action.

5.10 EXCEPTION PROCEDURES UNSUITABLE FOR PRACTICAL DIFFICULTIES

It is difficult for China to set up a permitting system covering all stationary sources by 2020 for the following reasons:

- » a. The limited resources available to the authorities and the sheer number of polluting installations to cover make it almost impossible to grant permits in such a large quantity and in such a short notice
- » b. Different sectors use different techniques, thus creating more difficulties when setting sector-based technical specifications
- » c. Many installations still have not gone through EIA procedures and many small-sized ones are operating off the regulator’s radar

In order to tackle the issues above and prevent illegal installations from getting around regulation, the Measures provided for a time period for voluntary commitment in Articles 61 and 62 of its supplementary rules. Where the permits are to be granted for the first time, for construction projects without approval of the EIA report or the relevant materials, or for installations with pollution prevention and control facilities, or measures failing to meet the permit standard, the environmental department may grant the permit anyway on the condition that the

operators will submit a correction or improvement plan in the future.

However, the permits should include the unsolved problems and set out a time frame and the measures required to correct it. If correction is made by the deadline, the operators may apply to the environmental department for a permit modifications and the latter shall make changes in accordance with Chapter 5 of the Measures. However, for those who fail to do so within the time limit, the competent authorities may order them to suspend production or shut down, and have their permits revoked according to Article 50 of the Measures. In other words, applicants not meeting the criteria may still obtain a permit on the condition that corrections will be made within a specified timeframe. The rules are relaxed to encourage more applications from operators of polluting installations.

Although it seems it will enable more installations to get permits, those failing to bring themselves up to the standards before the deadline will still be closed down. For standards that are easy to meet, operators are certainly willing to observe the requirements and get their permits. But for operators struggling with legacy problems or having insurmountable difficulties in meeting the standards, no matter how long the grace period is, the operators are likely to fail anyway.

For installations not up to the standards and unwilling or unable to make the necessary improvements, their emissions are likely to exceed the limit values and penalties are bound to ensue. So they are caught in a dilemma: either they operate in breach of the limit values and get fined or they observe the limit values and eventually close down. Neither is an ideal solution for the operator. The “conditional” permitting system in essence is a suspended sentence. In these circumstances, criminals will not turn themselves in just because they can get a sentence but with a reprieve. As a result, operators who have figured this out will not apply for a permit and the system will not eradicate corporate offenders and those operating off the regulatory radar.

6. Key issues to be addressed by the Regulation on Pollutant Discharge Permitting Administration

During the many discussions and correspondence on the consultation on Pollutant Discharge Permitting there was strong support for the principals and concepts. This was linked with an enthusiasm to continue to improve the efficiency and effectiveness of the environmental regulatory system. Various suggestions were made for the Regulation on Pollutant Discharge Permitting Administration in the spirit of positive cooperation. The key issues are identified below.

6.1 PRINCIPLES

An “All-in-one” Management Model is desirable. The Regulation should make sure that the Permitting Regime will be at the core of the management of the stationary pollution sources. It will serve as the legal basis for compliance, enforcement and public supervision. The regulation should also make sure that the permitting regime is well connected with other environmental management systems, such as the pollution total control scheme and the EIA system. It should also provide data on pollution discharges for environmental taxation, annual environmental status review, evaluation of total pollutants amounts, inventory of pollution sources etc. The goal is to make sure that one permit covers the whole production process of the stationary sources and that all types of pollutants are managed in an integrated manner. In other words, the drive is to establish a comprehensive permitting system that is integrated, tailored, information-based, technology-based, and law-based.

All stationary sources must be included. In order to fulfil the objective to complete verification and the granting of permits for all stationary pollution

sources by 2020, the Regulation should expand the coverage of the permit regime compared to the Measures.

- » a. The scope of pollution types should be expanded – solid waste included in the permit regime and requirements for other types of pollutions also included
- » b. Discharge to marine areas included in the permit regime

Further improvements should be made to the classified management approach. A new category, management by registration, for installations that do not require a full permit has to be created.

The ultimate goal of the permit regulation is to improve environmental quality. Therefore, the regulation should stipulate requirements for non-attainment areas to be set higher for pollution discharges and stricter total emission control imposed. In addition, the regulation should support stronger permit-based interim and long term standards to further improve the environment.

More effective systems are required to ensure better performance by discharging units. The Regulation should contain detailed articles on permit application, permit and licence management, permit-based discharge, identification of discharge points, self-monitoring, record keeping and reporting, uploading information onto the national permit management platform and open to public, cooperating with inspections, a credit system, and penalties for discharging in violation of or without a permit.

6.2 EXISTING LAWS AND POLICES

The requirements for a permitting system that covers multiple types of pollutants from all stationary sources can be found in many other laws and policies in China.

6.2.1 Legal Requirements for Permits to Cover Multiple Types of Pollutants

According to the second paragraph, Article 45 of the Environmental Protection Law, Enterprises, public institutions, and other businesses subject to pollutant discharge licensing management shall discharge pollutants according to the requirements of their respective pollutant discharge licenses; and those without a pollutant discharge license may not discharge pollutants. At the same time, the second paragraph of Article 22 of the Water Law, also requires that an enterprise or public institution which directly or indirectly discharges industrial waste water or medical sewage to waters, or waste water or sewage that may be discharged after a pollutant discharge license is obtained as required, shall obtain a pollutant discharge license.

An entity operating facilities for the centralized treatment of urban sewage shall also obtain a pollutant discharge license. There are similar requirements in Article 19 of the Air law - Enterprises and public institutions discharging industrial waste gases or the toxic or hazardous air pollutants listed in the catalogue specified in Article 78 of this Law, business entities using coal heat sources for central heating facilities, and other entities subject to pollutant discharging licensing administration shall obtain a pollutant discharge license.

6.2.2 Multiple Pollutants

Under “the Opinions of the CPC Central Committee and the State Council on Strengthening Ecological Environment Protection and Resolutely Fighting the Uphill Battle of Pollution Prevention and Control”, the permitting system should cover all stationary pollution sources and achieve coordinated control of multiple pollutants. The 13th Five-year Plan for Ecological Protection sets the target of “establishing a permitting system covering all stationary sources”.

6.2.3 Challenges in expanding the coverage of the permitting system

Existing legal requirements pose obstacles for the management of noise and solid waste to be included in the permitting system. The scope of managing marine pollution through permitting system is also limited, requiring revisions to relevant laws and regulations to ensure consistency.

According to the Environmental Protection Law, “The state shall, according to the law, apply a permitting system to the discharge of pollutants”. In other words, the application of the permitting system should be based on specific legal requirements. However, including the management of noise and solid waste into the permitting system in China lacks a legal basis. There is no mention of a permitting scheme in the Noise Prevention and Control Law and Solid Waste Pollution Prevention and Control Law. Only dumping waste into the oceans needs a permit under the current Marine Environmental Protection Law, hence there is very limited scope for the permitting of marine pollution. A change of current laws and regulations is needed to expand the coverage of the permitting system.

6.3 CONNECTING THE PERMITTING SYSTEM WITH OTHER SYSTEMS

6.3.1 Connecting the permitting system with EIA

Both EIA and permitting are tools for environmental governance. The two are always intertwined but at the same time independent of each other. The Implementation Plan explicitly stated that EIA is the environmental threshold a proposed project has to cross, for it provides the legality for enterprises to discharge pollutants during operation. The EIA system must be well connected to the permitting system to enable whole-process management of pollution prevention, treatment and emission control.

- » a. It is believed that EIA should be the prerequisite of permitting, which means the two are bound together. The way to connect EIA and permitting is that EIA must be undertaken before a permit is granted. However, a closer look at the Implementation Plan and the Management Measures for Emission Permitting System (For Trial Implementation) reveals that no wording about “prerequisite” is mentioned in either document.

- » b. Emission permitting is at the core of regulating stationary pollution sources, but it cannot solve all the problems in environmental management. Problems such as “construction without approval or actual construction inconsistent with the approved proposal” arising from EIA cannot be resolved unless we exercise stronger oversight during and after EIA and carry out special actions against non-compliance.
- » c. Coordinated use of different environment management instruments is needed to speed up the permitting and build a permitting system that covers all industries.

It is suggested that the permitting system should be designed as follows:

- » a. Since the implementation of the Regulation, any new projects or intentions to change or enlarge old ones should undergo an EIA in accordance with the law and the result of the review of the EIA considered before an application for a permit is made. EIA is the prerequisite of permitting.
- » b. Starting from 1 January 2015, for projects that have obtained EIA approval, the emission-relevant content in the EIA and review opinion should be included in the permit. Where the emission level associated with EIA is stricter than that using the standard calculating method, or that set under the total control requirement, or that set by the compliance plan within specific period, or emission limit set during specific period, the permissible amount of emission should be determined according to the EIA documents and the review opinions.
- » c. The environmental and ecological departments should work to standardise the classified management of pollution sources, identification of pollution sources, the emission calculation methods, and technical specifications for outlets. They must carry out integrated permitting system covering different types of pollutants, exercise whole-process management and coordinated control over multiple pollutants. The EIA must be linked with the management system and the technical specifications of the permitting system so that the two systems are interconnected.
- » d. Being regulated by a permitting system doesn't mean that there is any exemption from administrative penalties. Any non-compliance will also be subject to administrative penalties.

In granting the permit and regulating the compliance, it is suggested that the EIA is connected with the permitting scheme for new projects. EIA and the permitting scheme should function in accordance with the same catalogue for the classified management of stationary pollution sources. For verification against the requirements of a permit and EIA there should be a single unified technical specification for emission sources including the specification of outlets, emission concentrations and emission limits.

Existing projects can be at different stages of their EIA and how they can be linked to the permitting system will vary from case to case. Emission limits in the permitting system should be set strictly in accordance with the total emission limit and the emission permitting technical specification for the relevant industries.

- » a. For projects that obtain EIA approval after 1 January 2015, the limit for emissions in permits should meet the requirements of the EIA document and its approval.
- » b. For those projects without EIA documents, where the projects comply with the emission standard and environmental standard and fit in the regional production capacity, the permit with emission limits based on industrial emission permitting technical specifications can be granted to the projects. The permit should also specify the requirements for going through EIA procedures within one year, during which the enterprises can operate as usual.
- » c. For those projects without EIA documents, where the projects comply with the emission standards but don't fit in the regional production capacity or the environmental standard, the enterprises can still obtain a permit if they can present proof of meeting an emission amount after upgrading the capacity or purchasing it through emission trading. The emission limit can be determined based on the permitting technical specification and regional environmental quality.
- » d. For those projects with EIA documents, where the actual projects are inconsistent with the approved proposal, the Law of EIA and relevant laws should be consulted to decide whether the case falls into the category of substantial changes. Projects in industries which are exceeding the requirements of the EIA, such as steel, cement, electrolytic aluminium, and plate glass should replace or reduce the old capacity according to the law and any new projects in these industries should be banned.

In permitting projects undergoing substantial changes, the emission limit in the permit should be set in accordance with the EIA approval made for the previous capacity. The permit should also specify the requirements on going through EIA procedures within one year, during which the enterprises can operate as usual. If the permit needs adjusting after the EIA, the discharging unit can apply for the change of permit.

For projects which are not undergoing substantial changes, a second EIA is not needed. Permits can be granted according to the technical specification, regional environmental quality and the previous EIA approval.

Projects with a valid EIA approval but incorrect emission data (zero emission, for example) should be handled as making substantial changes.

For projects with valid EIA approval but emissions higher than the national or regional level, EIA approval should be included in the permit.

6.3.2 Connecting the Permitting System with the Total Emission Control System

A comprehensive permitting system requires reform of the current total emission control system based on administrative divisions. An improved permitting system is key to ensuring effective environmental quality improvement through total emission control. Under the new permitting system it is expected that through permitting, the responsibility for improving the environmental quality of regions will be shouldered by the relevant institutions and companies. Currently, total emission control is carried out solely based on administrative divisions. That is to say, the total emission limit is broken down from higher level administrative regions to lower level administrative regions. In the future, with the new permitting system, which will manage emissions on a case by case basis, the total emission control system that used to be based on administrative divisions will be based on discharging institutions and companies.

For regions whose environmental quality is not up to the standard, tighter emission standards or stricter permissible emission amounts shall be imposed on discharging units in the region, so as to further improve the region's environmental quality. The types of pollutants covered by the total emission control system shall also be expanded to all pollutants with effects on the environment. Gradually, total

emission control should be achieved by controlling stationary sources. In the future discharging units will get one single integrated permit with bespoke requirements and conditions.

Total emission control requirements should be written into permits. When making local environmental quality improvement plans (to meet environmental quality objectives set for the region), local environmental protection departments shall assign the task of emission reduction to discharging units within the region.

The sum of permissible emission amounts for all discharging units within the region must not exceed the total emission amounts for the region. The sum of actual total emission amounts from discharging units in the region gives the total emission in the region. In regions where environmental quality is not up to standard or which fail to achieve the environmental improvement objectives, allowance for key pollutants to be discharged by new projects or projects with significant changes and expansion shall be acquired from actual reductions of emissions by other discharging units within the region.

In conclusion, the connection between the permitting system and the total emission control system can be reflected in the following aspects:

- » a. The new total emission control system will be based on emission amounts by discharging institutions and companies (stationary sources). Several transitions are needed- the transition from a top-down approach to a bottom-up approach, from including all polluting sources to stationary sources only, from administrative division based to discharging institution and company-based.
- » b. The total emission amount set for a region is the sum of all permissible emission amounts prescribed in the permits of all stationary discharging institutes and companies within the region.
- » c. The goal of total emission control is to achieve environmental quality improvement. In regions whose environmental quality is not up to the standard or which fail to achieve the environmental improvement objectives, local governments shall set clear targets for permissible total emission amount of key pollutants. The government shall achieve environmental quality improvement by reducing permissible emissions in the permits or by encouraging actual reductions of emissions through technology upgrade, clean production and etc.

6.3.3 Connecting the Permitting System with the Emission Trading System

In 2017 pilot projects with simple systems for emission trading were established in 11 provinces in China (Jiangsu, Zhejiang, Tianjin, Hubei, Hunan, Shanxi, Inner Mongolia, Chongqing, Hebei, Shaanxi and Henan). In these provinces, functional primary markets have been set up led by governments, while their secondary markets led by companies are still being cultivated. Below are the key achievements:

- » a. Local regulatory documents on management methods, trading methods, bidding methods, pricing methods, technical specifications and etc. have been issued. Provinces like Zhejiang and Chongqing are seeking to consolidate the outcomes of the pilot projects by issuing local legislation to establish the legal position of emission trading and the use of emission rights with compensation.
- » b. Local capacities have been enhanced. Trading system and settlements platforms have been established in all pilot projects with division-level emission trading centres set up in seven provinces. Online monitoring is connected with emission trading.
- » c. Combining the trading market with environmental regulation measures. All parties are incentivized to participate in pollution reduction.
- » d. Opened up new channels for raising environmental protection funds. In Hunan, mechanisms to encourage social capital participation in emission management and emission trading were established. In Zhejiang, through emission trading, sources of environmental protection funding have expanded from the fiscal budget alone to a combination of market and government instruments.
- » e. Innovative policy and mechanisms to improve environmental governance. For example: Chongqing has established an emission trading management centre responsible for ensuring the achievement of the regional emission cap, updating data on polluting sources, management of trading allowance, resources and environment exchange, responsibility for disclosing trading information, organizing bidding and publishing trading results.

f. The market has played a role in allocating environmental resources. It has helped improve environmental awareness of local government and companies. It has also galvanized industrial transition and upgrading.

During the process, challenges were also encountered:

- » a. Lack of clear legal definition and requirements. The ownership of emission rights. Who owns emission rights? Is an emission right a type of right associated with the ownership of the polluting process or activity? It remains unclear whether the government has the right to recover the emission rights of a company. It is also impossible to grant certificates to confirm emission rights acquired through compensations paid. It is also facing difficulties connecting with the new tax system.
- » b. Unclear policy definition. What types of pollutants are applicable for the paid use policy and what for emission trading: The professional community remains hesitant and doubtful on emission trading for water pollutants. Can the lower stream and upper stream of large lakes and river basins trade their emission allowances? Can it be allowed between wastewater treatment plants? Unclear policy may lead to unfair situation.
- » c. Inconsistent pricing methods and allocation of allowances.
- » d. Supporting management system are lagging behind. How to ensure accurate measurement of emission amounts is a long-time challenge for regulating departments. The authenticity and accuracy of monitoring data is constantly challenged, falsification of data and secret discharging continue despite prohibition.
- » e. Unbalanced development, in the “paid use” scheme in particular. Zhejiang, Chongqing and Hunan are quite advanced while obstacles have been met in provinces such as Inner Mongolia, Shaanxi and Shanxi.
- » f. Secondary market is in general not active enough.

In connecting the permitting system and the emission trading system

- » a. It needs to be established that the permissible emission amounts prescribed in a permit is

the only certificate that can confirm the emission right in emission trading.

- » b. We should encourage trading between companies, rather than trading between government and companies
- » c. The reduction achieved by companies through reducing capacity or sub-load production cannot be used for emission trading. Only reductions achieved by industrial upgrading, clean production and technical upgrade can be traded in accordance with rules.
- » d. Allowances for new projects (or projects with major changes or expansions) in regions whose environmental quality is not up to the standard can only be achieved through emission trading within the region
- » e. Companies with changes in permissible emission amounts achieved through emission trading shall proactively apply for changes to be made in permits. The trading cannot be confirmed without changes officially made in the permit.

6.3.4 Connecting the Permitting System with environmental taxes, environmental statistics and other systems

Since the reform and opening up of China's economy, many mechanisms, such as EIA, discharge fees, total emission control and permitting have been established in China to improve control of pollution discharges. However, at least in the management of stationary sources, these systems are not well connected. The key to establishing all the necessary connections in stationary source management lies in the permitting system. The permitting system will be the core for managing stationary sources in the future. The actual emission amounts recorded in the permits will provide the basic data for future environmental management, environmental statistics, and environmental tax.

7. Compliance and enforcement in China

7.1 ENFORCEMENT

7.1.1 Approaches and items covered in enforcement actions

According to the Implementation Plan for Permitting System Controlling Pollutant Discharge, the key in implement permitting system is to regulate based on permits. Given that all environmental management requirements for a company are prescribed in a permit, enforcement for stationary sources should be based on permits.

Currently, the most common way in China of enforcing permits is on-site inspection. On-site inspections should be conducted by more than two inspectors with licenses. The inspections shall be carried out in accordance with on-site inspection and enforcement plans prepared in advance and enforcement records shall be kept.

Existing regulatory documents on procedures for on-site inspection include “Technical Specifications for on-site Inspections on Discharging Industrial Sites” issued by the former Ministry of Environmental Protection, the “Guidance for on-site Inspections on Discharging Industrial Site” issued by Shandong province, which listed key items to check on sites includes emissions to air and water, as well as noise and waste. In Zhejiang, guidance was also issued which clarified the procedure with practical solutions for key challenges such as verification and calculation of action emission amounts, compliance checking, best available techniques, self-monitoring etc. In its annex, it also provided checklists for on-site inspections for coal-fired plants and the paper industry.

On-site inspection requires competent authorities (environmental protection departments) to collect relevant materials and information, draft plans and

determine key items to check. The actual emission amounts from a company can be verified through methods such as enforcement monitoring, reviewing environmental ledger and others. The key is to check whether the emission data reported by the company is authentic and accurate, whether the company is discharging in compliance with requirements. Online monitoring data provided by discharging companies and institutes can be used as the basis for enforcement.

Take the example of Zhejiang. On-site inspection in Zhejiang mainly covers two aspects:

- » a. Whether the plant which is discharging has a permit.
- » b. Whether the plant is discharging in accordance with the permit.

The process is shown below: (next page)

At the same time, the inspectors should fill out the inspection checklists and the technical verification lists (industry specific) on site, then upload the lists to the relevant platforms together with the inspection records and materials collected.

An example of an inspection plan is given below (next page)

7.1.2 Enforcement improvement

To further enhance enforcement, changes and improvement measures were adopted at national and local levels, including:

- » a. New enforcement approaches —“surprise checks by ‘surprise’ inspectors (inspectors who were not told in advance which installation to check) + disclosure of inspection report”

- This new enforcement approach was first proposed in July 2015 by a “Notice on Enhancing Regulation during and after Inspections ” to supplement routine inspections. The implementation plan issued later asked environmental protection departments at municipal and county levels to list all polluting sources as potential targets for surprise inspections. During these surprise checks, key items to check include the functioning of the pollution control prevention facilities, pollutant emissions, EIA, and the implementation of its environmental management system. In August 2017, the method was required to be used in inspections carried out for coal-fired plants and the paper industry. By 2017, the surprise checks by surprise inspectors + disclosure system has been established by all environmental protection departments at municipal and county level.

- » b. Combining on-site and off-site inspection
 - In addition to on-site inspections, competent authorities can check company compliance by reviewing their reports and their data disclosed on the national permit management platform.
- » c. Frequencies of routine and surprise inspections planned, based on the scale and compliance record of emission sources
 - Emission sources shall be checked by categories. Key emission sources shall be regulated with stricter requirements. While for non-key emission sources, they can be checked through surprise inspections. The compliance record can be an important factor in planning the frequencies of inspections. The size of the inspection team and the jurisdiction, the number of polluting sources, compliance status of companies, environmental quality in the area, complaints from the public and others can all be factors for consideration in developing inspection plans.
- » d. Support from third party agencies in enforcement and inspections
 - Ever since the reform in the permitting system started in 2016, permit management at local level has faced many practical challenges such as insufficient staff, limited expertise and management skills. To address these issues, many new approaches have been

developed at local level. For example, the environmental protection and water protection bureau of Baoan District, Shenzhen has developed cooperation with the environmental training college of Guangdong Province (affiliated to Guangdong Environmental Protection Bureau). Over 210 professionals from the college were hired to support routine inspections carried out by Baoan District Environmental Protection and Water Protection Bureau, effectively enhancing the inspection capacity of the local government.

7.2 LEGAL LIABILITY OF THIRD-PARTY AGENCIES

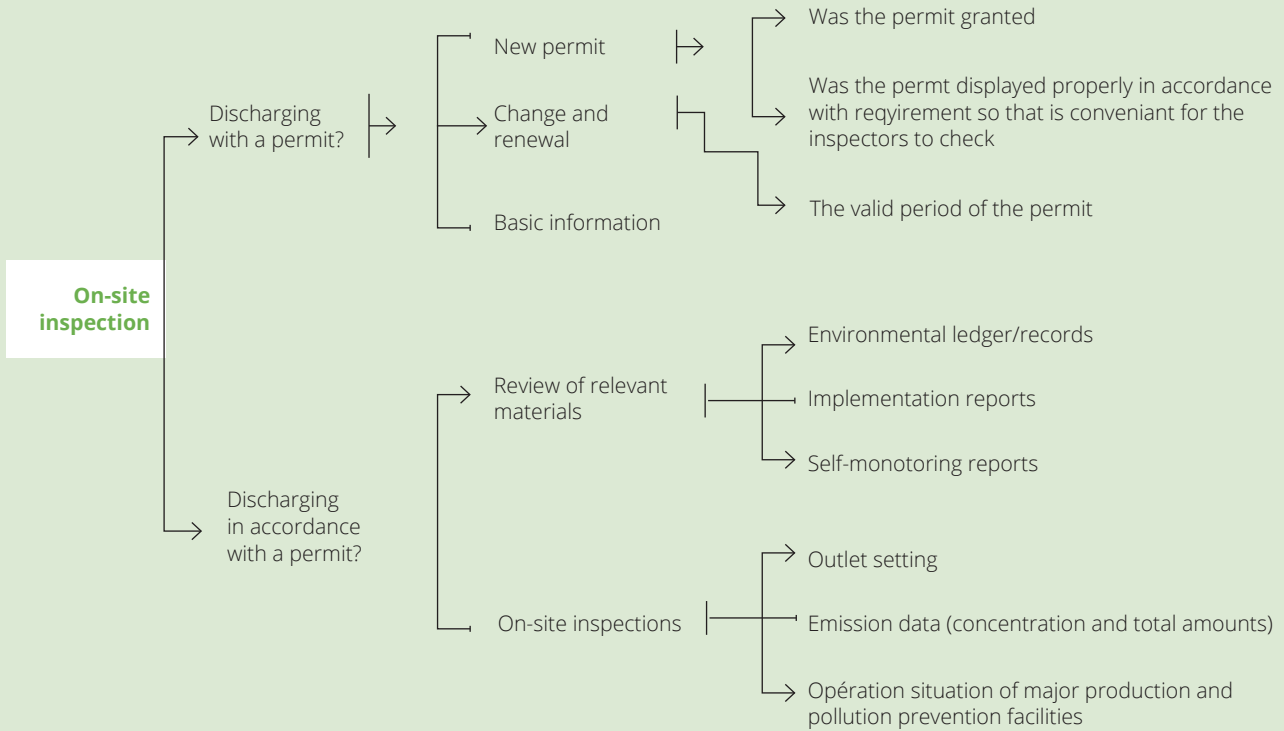
7.2.1 Third-party agencies

In the permitting regime, it usually requires a lot of effort and human resources to review application materials, to conduct follow-up research, to build and maintain the database etc. Hence, it is almost impossible for the government to take on the job alone and the government has to rely on support from agencies/institutes directly under them and research institutes. On the other hand, there are also wide demands among companies for technical support from environmental consultants for tasks such as filling out applications, monitoring, and compiling reports. However, only a few companies are equipped with an environmental department or environmental professionals. Most of them rely on the services provided by third-party companies in the market. Third-party service provision is the likely future trend and will meet the common demands of industry and government.

A third-party service provider is an independent and professional expert in environmental governance commissioned or contracted by discharging units responsible for managing their own emissions. These third-party agencies are active in the market and are usually paid to carry out assessment, monitoring, operation and environmental management tasks assigned by the discharging units. Their advantages include:

- » a. Providing expertise and resources to improve the operation efficiency of pollution control facilities to achieve better emission control
- » b. Balancing out the resource pressures on the discharging units and the permitting authorities

Inspection Process



Inspection plan for coal-fired plants and paper industry

Key items to check in these industries include:

(1) Severe punishment for discharging without permits.

Inspections will be carried out in accordance with the list developed earlier on discharging companies without a permit (by June 30 2017, hereinafter referred to as the list). All discharging companies without a permit will be punished severely in accordance with the environmental protection law, the air law and the water law. Those who refuse to abide by the order to stop discharging will be transferred to be handled by the public security department.

(2) Check and punish where emissions are exceeding the permitted concentration limit

For companies with permits, the key is to check whether its major outlets are discharging in accordance with permitted emission limits. Regions with better resources can also check whether the discharging company is acting in accordance with other requirements and conditions in the permit. The inspection is based on self-monitoring data

provided by companies. Enforcement monitoring shall be imposed on companies without self-monitoring or on companies whose monitoring data is questionable. Penalties will be imposed on those who discharge outside permitted concentration limits. All non-compliant companies shall take measures to rectify their performance within a specified time limit. If not, the inspection authority will report the company to the local government to shut down the company.

(3) Urge companies to carry out self-monitoring. Inspections shall also cover the self-monitoring situation of a discharging company with a permit

The focus shall be on whether there is self-monitoring, the location where the monitoring equipment is set, the types of the pollutants monitored, and the monitoring frequency. Companies who did not carry out self-monitoring in accordance with requirements and those who did not keep the original records of the monitoring results will be punished according to relevant laws and regulations.

- » c. The expertise of a third party service provider can contribute to industrial upgrade and economic growth

By broad definition, third-party service providers include: EIA agencies, environmental monitoring agencies, agencies specialized in operation and maintenance, and environmental service companies. In the narrow sense, third-party environmental governance providers are environmental service companies only.

7.2.2 Services provided by third party agencies.

Currently in China, third-party agencies are usually involved in two streams of work: to provide support for government bodies and to provide services for companies. Through reform, in the future, agencies/institutes directly under environmental departments of the government can be transformed to provide third-party services for governments together with universities and other research institutes. The scope of their services can cover the review of permit applications, follow-up research on the permitting system, construction and maintenance of database. Polluting units can hire environmental consultancies as a third-party to help them with permit applications, permit change, permit renewal, daily monitoring, data compiling, drafting compliance report, keeping a ledger etc.

7.2.3 Management of third-party agencies

Given there are two types of agencies with different targeted customers, accordingly, they should be managed differently.

- » a. Third party agencies who provide services for the government shall act according to a contract signed between them and the government. According to the Management Measures in principle, the third-party agency shall be responsible for the authenticity and the accuracy of the technical reports it produced. Unintentional errors made by third party agencies can be ordered to be corrected by government. If the government department finds that the entrusted third party agency conceals, manipulates, falsifies or makes major errors or malicious collusion, the department shall immediately terminate the service relationship, record it in the credit archive, and publicise the failure on the national platform for

permit management. In case of a crime, the third party shall be held accountable according to the law.

- » b. For third party agencies who provide services for companies, they shall assume their obligations as prescribed by the contracts and in accordance with relevant laws and standards. The company shall be held accountable for the actions of the agency it entrusted. According to the Opinions on Promoting the Role of Third Party Agencies in Environmental Governance, the duties and obligations of a third party agency are prescribed in its contract with the company. However, if it is found by the government that the third party agency, in its own interests, falsifies information, manipulates data or conducts malicious collusion with the company, which has led to serious consequences, the third party agency shall be held liable.

8. Building on EU experience

Workshops and discussions between environmental policy makers, regulators and administrators from China and the EU identified many issues around the implementation of integrated environmental permitting in common. The details of the development and delivery of integrated pollutant discharge permitting in the EU are described separately. This section draws on the EU experience of the implementation of integrated permitting and describes how it could be considered in the context of the delivery of pollutant discharge permitting in China.

8.1 BACKGROUND

The EU initiated its implementation of comprehensive environmental permitting in the 1970s and truly integrated environmental permitting was fully implemented in 2010. In the interim a wide range of measures relating to aspects such as environmental impact assessment (EIA) and emissions trading were developed and implemented across the community. It was a challenging transition but has delivered a regulatory framework which is clear and consistent securing the best outcome for the environment as a whole. It also benefited from the collaboration of representatives and experts from lawmakers, regulators, industry and public representatives of 28 nations. The skills and experiences of implementing and operating an integrated permitting process are available to be shared with governments, public and commercial bodies across the world. It is beholden on those with the experience to share it with other countries seeking to implement integrated permitting.

8.2 Time and resources for implementation of the new permitting

The availability of resources is an issue which has faced regulators and administrators in many EU countries when implementing integrated permit regulation. It has been suggested that the easiest solution is to rebrand or relabel existing permits and regulatory arrangements. However, this fails to challenge and change the ways of thinking of operators

of polluting activities and their regulators. It also fails to deliver the desired outcomes and benefits of a new integrated approach. Methods used in the EU have included:

- » a. Taking a risk based approach where for example the activities with the greatest or worst impact on the environment, or the least competent management or most likely to breach emission limits are permitted first
- » b. Drawing in staff from elsewhere or paying third parties to undertake some of the permit determination work. This could include assessment of the information in the application or preparing the outline of the permit for subsequent completion.
- » c. Grouping activities within an industry sector together and determining their permit applications together. This can mean that everyone becomes more familiar with the technical details for the particular sector, its issues and the permit requirements.
- » d. Developing standard application and permit templates for industry sectors so that polluters and regulators focus on the most important issues.
- » e. The environmental regulator should work with individual operators of polluting activities and their trade associations to help them prepare for the new permitting system and prepare permit applications. This ensures that the information required by the regulator is included in the permit application and the determination of the application can be quicker.

8.3 The legal basis of the permit and responsibility for any errors

In the EU any operator who wants to undertake an activity included in the prescribed list of activities must have a permit before they can undertake the activity. By the end of the implementation phase any operator without a permit must shut down. If the

operator of the polluting activity cannot achieve the standards expected of the activity they may make the case that the implementation of the standards should be deferred. This may be acceptable in exceptional circumstances but the permit must contain a clear justification for the delay and a timetable for the activity to come up to specified standards.

If the operator or the regulator has made a mistake such that there is an unintentional error in the permit, then the error should be corrected immediately. The permit is a “living” document and should be updated or corrected as required in the light of knowledge about the environment, the activity and changes to that knowledge. If the operator has deliberately provided false information or failed to provide information the regulator can change the permit and will take appropriate legal action against the operator.

If the operator wants to make a significant change to the permitted activity then they must ask for a variation of their permit. They must provide the regulator with a justification for the change and an assessment of the environmental consequences. Only if the regulator accepts the changes requested can the permit be changed.

The operator is responsible for the permit and compliance with all the conditions in it. These may include monitoring the activity and reporting the results of the monitoring and the performance of the processes. This includes reporting any breaches of the limits or other requirements of the permit. The reports must be submitted to the regulator as required in the permit and failure to report is a failure to comply with the permit. The operator may also be required by conditions in the permit to make information including monitoring results available to the public. This could include placing information on a public register or on a web site.

8.4 THE LEVEL OF DETAIL REQUIRED IN THE PERMIT

The EU regulations specify what information is required to be supplied in the permit application and in the permit. They include the location and type of activity undertaken, details of the activity and its releases to the environment, monitoring of the released and the reporting of the performance of the activity and the releases. The technology and techniques used in the activity are important as they determine the types and general levels of release.

However the actual levels of release are determined by the way the process is operated. It is therefore important that the permit focuses on the principle operating parameters and the principle releases from an environmental viewpoint. The company management system should include all the details of the operation and management of the plant including all the release points and discharges. The more important release points and discharges, monitoring methods and frequency should normally be included in the permit. A requirement in a permit for an effective and audited management system should ensure that the polluter identifies and controls all releases.

8.5 THE RELATIONSHIP BETWEEN THE PERMIT AND EIA

In the EU, the requirement for an EIA is complementary to integrated environmental permitting in the achievement of the best outcome for the environment. The activities which require an EIA and what is required in an EIA are specified in separate legislation to the integrated permitting legislation. This is because the EIA legislation was developed well before the permitting legislation.

Some activities require an EIA (major infrastructure such as an airport) but do not require an integrated permit and some require a permit but not an EIA (small scale production).

Where an EIA is required it must be produced to the requirements of the regulations and submitted to the planning authority, usually the local municipality, town or city. There it is assessed by the local planning and environmental experts as to whether it meets the requirements of the regulations. It is then used by the planning authority to decide whether the plant or process should receive planning permissions and can be constructed. The planning authority may include additional requirements on the location, design and operation of the activity as a result of the EIA. These will relate to the wildlife, amenity, access, use of resources, impact on neighbouring people and activities. They will not specifically apply to the polluting activity or its releases to the environment other than possibly the impact of chimney height.

A copy of the EIA is submitted to the environmental regulator to help the regulator assess the effects of the proposed activity on the environment. If there is a likely significant impact the regulator may consult

with planning and environmental counterparts and may impose tighter standards on the design, operation or emissions from the plant or process. The environmental regulator is unlikely to consider the commercial or local need for a particular process or activity.

8.6 THE SETTING OF STANDARDS

In the EU operators are required to use the best available techniques and the technology, operations, releases and monitoring associated with the best available techniques are included in the permit. The identification and specification of what constitute the best available techniques are derived from discussions and conclusions by experts from each of the EU member states. These experts may be regulators, industry representatives or from other interested organisations. The use of this international arrangement ensures that ideas and experience from all EU countries is considered and that the conclusions represent the best and most advanced thinking. It encourages a spirit of collaboration between industry and regulators which is reflected in the applications for and the determination of the permits. It also establishes a common standard, a level playing field, across EU countries and businesses. It also makes it easier for businesses and encourages businesses to identify where these standards are not being applied and operators are trying to undercut their competitors economically and environmentally.

This open and collaborative approach encourages environmental and economic innovation and the sharing of best practice within and across sectors. Details of the standards for each of the industries covered by integrated environmental permitting are publically available generating public understanding and confidence in the technologies and standards being required.

8.7 PERMITTED EMISSION QUANTITY/VOLUME AND OVERALL ENVIRONMENTAL CAPACITY

An important part of environmental regulation in China and Europe has been the recognition of and taking into account, the capacity of the environment to receive a quantity of pollution without significantly adversely affecting the receiving environmental medium. This is especially important in discharges to water such as a river or lake with a definable physical capacity. Concentration limits, above which there are detectable adverse impacts, are then used to determine a biological or chemical capacity for the receiving environmental medium.

In the EU the principle behind determining a level of release to the environment is the use of the best available techniques. This avoids disagreements as to the environmental capacity of the receiving environment. Permitted emission quantities or volumes may be included in the discharge permit. The limit which applies in a permit is whatever is the tightest requirement, from the application of the best available techniques and the associated release level or from the maximum quantity or volume that can be discharged to protect the receiving environment.

9. Improving environmental quality

The overall benefit of an integrated environmental permitting system is the resultant improvements to the environment. Underneath this overarching goal there are many other benefits which have been identified and experienced by the countries around the world which have adopted the approach. Permit schemes are now working across Europe, much of Asia and parts of Africa. Although they may vary in some details the principles are similar, permit schemes have also introduced related benefits to the operators of the polluting processes, regulators and the public which are described below.

9.1 PERMITTING ALL SIGNIFICANT STATIONARY POLLUTION SOURCES

A single coherent permitting system ensures that all pollution sources are regulated and the best outcome for the environment is achieved. It also ensures that each polluting enterprise is treated fairly and that the economic impacts and benefits are experienced evenly both domestically and internationally levels. Ultimately it secures the most sustainable development possible.

9.2 TAKING INTO ACCOUNT SCALE AND ENVIRONMENTAL IMPACT

Regulations should identify the major pollution sources to be subjected to site specific integrated environmental permitting, embracing all releases to, and the impact on, the environment as a whole. The driver is pollution prevention rather than end of pipe solutions. The use of the best available techniques including technology, and encouraging innovation and better controls, are considered simultaneously.

Small and medium-sized activities are subject to simplified permitting where they are a lower environmental risk and the regulatory requirements can

be proportionately less. Standard rules and registrations are appropriate for the smaller activities. Permits, inspections, monitoring and enforcement can be based on templates and standard procedures more readily for smaller activities. Local officers with expertise in the local activities may be best placed to regulate such activities.

However, the number of small and medium sized activities is very much larger than the larger more polluting activities. As a result, their combined impact on the environment can be significantly greater and more wide spread. Small and medium sized activities also tend to be closer to where people live and work causing a more localised impact. In addition the operators of small and medium sized activities often undertake several roles and attention to the different aspects of the polluting activity may be less. The operators are less likely to be qualified in environmental aspects of their operations and less well equipped to respond when things go wrong. They are also less likely to have the resources and money to improve their processes and could be more likely to be operating illegally or not complying with the legislation. Unfortunately with local officers inspecting local activities there is more chance of “regulatory capture” (local officers not seeing everything that is going on and taking the side of the operator of the polluting activity) and corruption.

It is essential that all aspects of the operation and risks are taken into account when allocating. These measures ensure that the resources used to advise on, review and determine permits, inspect and enforce are used in the most cost effective way. They also ensure that the polluter’s resources are used in the best way to secure their permit and maintain compliance with its conditions. For example, a two MW electricity power station may have a greater quantity of emissions but will undertake and report its monitoring and require less inspection and enforcement than a small furnace burning waste oils, melting waste metals in a backstreet emitting poisonous gases into the homes of people living next to it.

9.3 PERMITTING AT THE APPROPRIATE ADMINISTRATIVE LEVEL

The level of complexity, technical knowledge and regulatory skills will determine where in national and local governance structures permit applications should be made, permits issued and enforced. There are advantages in this “one stop shop” where one administrative body deals with all stakeholders and achieves a high level of consistency, although there can be benefits in national and regional consolidation or specialisation in particular industries or sectors. Generally the simpler the activity the more local the regulatory control. There can be a case for separating permitting, inspection and enforcement functions but effective coordination is required between them.

9.4 PUBLIC ACCESS TO INFORMATION

By giving the public an opportunity to comment on permit applications before the regulator reaches its decision and providing access to the permit and related information after the permit has been awarded the public can have greater confidence in the decision making process and its outcome. This also reduces the number and difficulty of challenges by the public and other interested parties including competitors.

9.5 ENGAGEMENT AND COLLABORATION

Engagement with individual polluting companies prior to, during and after the permitting process improves understanding and respect. This results in fewer challenges and improved advance notice of changes by the operator as well as more trust in the regulator by the polluter. Working together at a regional and national level helps establish consistent national and international standards and the sharing of information on developments in technology and techniques as well as improvements in regulation.

Engagement between regulatory and advisory authorities, utilities and emergency response organisations improves understanding of environmental risks and opportunities for improvement in working practice and environmental outcomes.

Public data bases containing information on processes, releases and monitoring will help the preparation for and responses to accidents and incidents.

The sharing of environmental impact information including environmental impact assessments (EIA) will help planners and organisations responsible for the state of the environment to ensure that the impact of any development on the environment, flora and fauna is minimised and appropriate mitigation measures undertaken.

10. Recommendations on China's future priorities and issues still to be addressed based on EU experiences

Environmental policies are being developed rapidly in China in response to economic growth and the commitment to protect and enhance the environment. Laws and regulations to implement and deliver on these policies are also being developed rapidly. It is challenging in the time available for the staff developing the legislation to engage with experts, practitioners and other interested parties to ensure that is drafted in the most effective way and successfully delivers the aspirations of the country.

In European countries and across the EU, laws and regulations are reviewed and revised as necessary to deliver the intended controls and outcomes. The development of integrated permitting is no different. Changes are also required as scientific understanding, technical knowledge and national requirements change. It is therefore to be expected that China's priorities and issues for the future will also change. In the meantime the following recommendations are made based on current knowledge and experience of permitting in China.

10.1 MAINTAINING PERMITTING PROGRESS

China has expended tremendous effort to put in place a new framework for pollution discharge permits and is trying very hard to fully deliver it on time. Permits are being issued in large numbers across the country and the priority remains to complete the programme.

Inevitably there will be issues with the quality and consistency of some of the permits but once the programme of permitting is completed time can be

taken to correct or update permits as required. The permits must be seen as live documents that can be corrected and updated rather than set in time. Permits should be formally reviewed at a frequency appropriate to the polluting industry, its investment cycle, and the changes to its operating techniques and technologies. The permit for a coal fired power station may only require reviewing every five years but the permit for a chemical plant may need reviewing every year.

10.2 PERMITS

The responsibility is on the operator of a polluting activity to demonstrate that they are complying with their permit requires reinforcing. They must hold a permit which covers all their activities. They cannot operate without a permit and cannot undertake activities which are not covered by the permit. It is the duty of the operator to ensure that the permit is up to date and to request variations of the permit when necessary.

10.3 TARGETING INSPECTIONS

There is concern that monitoring and inspection programmes are based on a standard frequency of inspections without taking significant account of environmental and performance issues of individual operators. To secure the optimum use of resources the inspection programme must be based on an assessment of the risks of the regulated activity and the performance of the operator. This will be informed by the results of previous inspections and an analysis of the monitoring and other reports

from the polluter. Areas and activities for priority inspection can then be identified.

Where practicable operators of polluting activities must have an effective management system which is regularly audited by both internal auditors and external auditors. In most circumstances a high priority for any inspection will be to review the audit reports. This should give the inspector a clear view of the important issues on the site and if any exceptions are recorded, the ability to see what if any corrective action has been taken. The audit report will give an overview of issues and the general management approach which will provide a further steer as to the aspects of the polluting activities which warrant the closest attention.

The report of the inspection should highlight the issues and actions taken at the time of the visits and any follow up actions and timescales. This will then provide the basis for future inspection.

10.4 MONITORING

The duty is on the operator to demonstrate that they are complying with the terms of their permit. This will include undertaking the monitoring of the activity and its releases as well as the wider management of the activity. Results of monitoring and internal auditing of the management system must be recorded as well as actions taken in response to this information. While this information must be available for inspection, it is more important that the exception information is made publically available and notified to the regulatory and enforcement authorities. Inspectors need to be aware of trends in performance especially where there is a deterioration in performance and where any operating perimeter has approached any operational limit. A consistent level of results well within the limits is encouraging, an erratic set with spikes approaching limits is of concern. Checks and calibrations are also required to confirm the accuracy of the monitoring and this verification data also needs to be collated and made available for inspection. Auditing of spot sampling is as important as auditing of continuous and periodic sampling and monitoring.

The challenge is to ensure that the regulatory authorities receive the information that they need without being overwhelmed with data. Unfortunately it is a well-known technique to hide bad news within a mass of data and then claim that the regulatory authorities knew what was going on.

10.5 TAKING ACTION ON PERMIT BREACHES

There is a sophisticated model for deciding the levels of fines by polluting industries. It needs to be proportionate and link in with stronger measures where necessary.

Polluting industries should be encouraged to share information on their performance and report quickly on any breaches of their permits. The regulators should then take a proportionate response to failures to meet permit conditions. Where notification is prompt and remedial action rapid and effective then enforcement action and prosecution can be proportionate. Failure to apply for a permit, failure to provide adequate or correct information should be the target for enforcement action. Similarly failure to report accidents, incidents or breaches of the permit, or delays in reporting should be treated more harshly. Responses need to be proportionate to the environmental impact and attitude and action of the polluting business.

10.6 COORDINATING PERMITS WITH EIA, EMISSIONS TRADING, ENVIRONMENTAL CAPACITY AND LOADS

Polluting industries regularly complain about the level of bureaucracy and reporting required to comply with environmental regulations. This often involved them in maintaining up to date comprehensive records of their activities, releases from release points, and environmental impacts. Significant staff time and expensive monitoring and data recording may be required. However, it should be noted that this is usually significantly less than the burden of meeting the requirements for tax, employment or health and safety regulation.

In part some of the burden is due to the need to meet the requirements of different regulatory regimes. In the EU different environment related regulatory regimes have developed separately in different time scales. The advent of integrated pollution regulation has provided an opportunity to consolidate environmental permitting but currently there is little drive to integrate the wider different environment regulatory regimes. Because of the push back on new environmental regulation it is unlikely that any further consolidation will occur in the near future.

In China the development of environmental permitting alongside the established requirements of environmental impact assessment under wider national environmental direction provides an opportunity for coordination and potentially integration between the two systems. Similarly it should be easier to integrate emissions trading and total emission controls into the permitting system. The controls and limits required to deliver each of these regulations are then applied to the polluting activity and its discharges.

10.7 IMPROVING TRANSPARENCY

The speed of economic development in China and environmental changes has resulted in some of the global knowledge and understanding of China becoming dated. The world would like to see China as a leader in environmental protection and enhancement rather than a laggard. Information about the current situation often appears out of date or is missing. There is also a lack of awareness of the investment in new and clean technology and the closure and replacement of older and more polluting industries and technologies. Similarly there is a lack of knowledge about the new environmental regulations and their implementation and enforcement. In part this is due to the lack of information in English about the regulations in China and a struggle to keep pace with economic and environmental developments.

It would be beneficial to national and international companies investing in China as well as improving understanding of China if more of the legislation and reports on the implementation were made available and accessible in English. Publication of permits and reports of compliance with permits will help understanding of the regulations and their effectiveness. Unfortunately too few native non-Chinese speakers speak Chinese and so there is a limited understanding of Chinese development and change.

10.8 IMPROVING STANDARDS

Protecting and improving the environment is most effectively achieved using the best available techniques. Across the EU industries and regulators have collaborated to identify the best technologies and ways of working. Based on these techniques acceptable limits on pollutant releases have been identified as the baseline for limits in permits. As industry has advanced and techniques have improved so the standards and limits have been tightened. Similar collaborations have occurred in other countries and regions. As trade has become more global in order to maintain a fair trading platform and protect and enhance our shared environment, it is important that the knowledge on best techniques and practices is shared.

11. Conclusions

11.1 OVERVIEW

The development and roll out of the new permitting scheme is both challenging and a valuable opportunity to make a difference. Below are some points on the details of the permitting scheme.

At the core of any environmental regulatory system has to be the drive to not only protect the environment but also to enhance it. This includes taking responsibility for the actions of previous generations and addressing the pollution and damage caused as well as ensuring that our current generation does not take actions or cause impacts which create problems for future generations. Any business which wants to continue operating has to be sustainable. Individual and national aspirations are reflected in the UN Sustainable Development Goals²⁴. An effective regulatory regime is an important contributor to sustainable development.

11.2 PERMITTING

The implementation of an integrated discharge permitting system in China has been and continues to be challenging. There is a commitment to make it happen and this must be encouraged. There will continue to be challenges around resources and timescales. However, the permitting scheme is sufficiently flexible to allow for corrections and updating as required. From discussions with national, regional and local officials there is commitment to make the new permitting system work. Challenges have been identified but none should stop the progress of the programme. Where possible and based on experience in the EU potential solutions have been identified.

11.3 INTERACTION WITH OTHER REGULATORY SYSTEMS INCLUDING EIA

There is a concern amongst regulators and administrators as to how the interface with EIA, emissions trading and mass emission/environmental loads could work. If each is undertaken separately and their respective requirements brought together it is possible to set standards and requirements which meet the needs of all the regulatory systems.

11.4 PERMIT STATUS

Greater clarification is required on the status of the permit and who is responsible for compliance with it. The permit should be based on information provided by the operator of the polluting process and the operator is responsible for compliance with the conditions in the permit. Permits should be able to be corrected or updated as required. Failure to have a permit or operating outside the conditions of a permit is clearly an offense.

11.5 MONITORING AND REPORTING

There is clear commitment to, and experience of, monitoring and reporting by process operators and check monitoring by regulators. Guidance is available on monitoring location, frequency, methods and reporting. There is a strong commitment to data platforms where information is shared with the regulator and made publically available as required.

11.6 INSPECTION

Structures already exist to plan and manage the inspection of polluting activities. Inspections should use all the information already available and be

24 <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

prioritised to target activities posing the biggest risk to the environment and where there is least confidence in the competence of the operator.

11.7 ENFORCEMENT AND COMPLIANCE

The case studies and reports point towards a hard line on checking compliance and enforcement. Consideration may need to be given to the enforcement actions available and to what extent that they are proscribed. Enforcement needs to be proportionate to the offense. There is a danger that if the enforcement action is more draconian than that warranted by the offence that no enforcement action is taken.

Third parties can be used to assist in permit application determination and issue as well as inspection and enforcement. Their most valuable role is as independent third party verifiers. They must be fully accountable to the regulatory and enforcement authority and work with the same qualifications to the same standards.

11.8 SHARING EU EXPERIENCE OF ENVIRONMENTAL REGULATION

There are strong similarities between the EU and Chinese permitting schemes. Therefore a comparison between the schemes is very valuable from the point of view of learning from each other and helping organisations to understand the working of the schemes. As the EU scheme has generally predated the Chinese scheme the latter can benefit from the lessons and issues of the former. In particular the Chinese scheme has an opportunity to integrate many of the related environmental regulatory schemes which is not available to the EU. Sharing practical knowledge of the workings of each scheme is mutually beneficial and will help not only policy makers but also administrators and regulators. This sharing of experience between regulators across the EU has proved valuable, securing more consistent approaches and identifying good practices. A better understanding of the Chinese system will help EU policy makers in future work, and businesses and organisations undertaking work with and in China.

11. Annex 1 - European Union (EU) environmental regulation

11.1 INTRODUCTION TO THE EU

The European Union (EU) consists of 28 sovereign States which are all member of the United Nations. These States transferred part of their national sovereignty, among others in the area of environmental protection, to the EU. The relationship between the EU Member States and the EU are regulated by the principles of conferral, subsidiarity and conferral. The application of these principles, in particular the principle of subsidiarity, is sometimes the subject of animated diverging discussions within the EU institutions; it leads to decisions which are influenced by political considerations and which do not always constitute the most reasonable, most practicable or economically and/or environmentally best solutions.²⁵

Article 5 of the Treaty on European Union (TEU) states:

- » a. The limits of Union competence are governed by the principle of conferral. The use of Union competences is governed by the principles of subsidiarity and proportionality.
- » b. Under the principle of conferral, the Union shall act only within the limits of the competences conferred upon it by the Member States in the Treaties to attain the objectives set out therein. Competences not conferred upon the Union in the Treaties remain with the Member States.
- » c. Under the principle of subsidiarity, in areas which do not fall within its exclusive competence,

the Union shall act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States, either at central level or at regional and local level, but can rather, by reason of the scale or effects of the proposed action, be better achieved at Union level. The institutions of the Union shall apply the principle of subsidiarity as laid down in the Protocol on the application of the principles of subsidiarity and proportionality. National Parliaments ensure compliance with the principle of subsidiarity in accordance with the procedure set out in that Protocol.

- » d. Under the principle of proportionality, the content and form of Union action shall not exceed what is necessary to achieve the objectives of the Treaties. The institutions of the Union shall apply the principle of proportionality as laid down in the Protocol on the application of the principles of subsidiarity and proportionality.

11.2 PRINCIPLES OF EU ENVIRONMENTAL LAW

The protection of the environment is a shared responsibility (competence) between the European Union and the EU Member States.²⁶ EU environmental policy shall aim at a “high level of protection and improvement of the quality of the environment”²⁷.

Article 191 TFEU again specifies that the EU environmental policy shall aim at a high level of protection and contribute to:

25 An example might be the EU Commission proposal for a directive establishing a framework for the protection of soil, COM (2006)232. More than twenty EU Member States pronounced themselves in favour of that proposal; however, a minority of six Member States successfully blocked its adoption.

26 Article 4 (2) TFEU: “Shared competence between the Union and the Member States applies in the following principal areas: ...(e) environment..”.

27 Article 3(3) TEU.

- » a) the pursuit of the preservation, protection and improvement of the quality of the environment
- » b) the protection of human health
- » c) the prudent and rational use of natural resources
- » d) the promotion of measures at international level, in particular combating climate change

The international aspect of the EU policy is further detailed by Article 21 TEU which indicates that the EU shall, among other things, foster the sustainable environmental development of developing countries with the primary aim of eradicating poverty, and help develop international measures to preserve and improve the quality of the environment and the sustainable management of global natural resources.²⁸ Article 11 TFEU finally stipulates:

“Environmental protection requirements must be integrated into the definition and implementation of the Union policies and activities, in particular with a view to promoting sustainable development”.

These overall policy objectives are further specified by EU environmental action programmes. Such programmes existed since 1973²⁹, but are, since 1993, adopted in the form of binding decisions by the European Parliament and the Council.³⁰ They lay down objectives, principles and priorities which shall govern the EU environmental policy during the lifetime of the programme. At present, the Seventh Environment Action Programme is running.³¹ The action programmes fix objectives, principles and priorities for EU action in the area of environmental policy, though they do not contain directly applicable measures; rather, binding measures have to be adopted by way of EU legislation.³²

28 Article 21(2)(d) and (f) TEU.

29 First Environment Action Programme 1973-1976, OJ 1973, C 112 p.1; Second Action Programme 1977-1982, OJ 1977, C 39 p.1; Third Action Programme 1983-1987, OJ 1983 C 46 p.1; Fourth Action Programme 1987-1992, OJ 1987, C 328 p.1; Fifth Action Programme 1993-2000, OJ 1993, C 138 p.5; Sixth Action Programme 2002-2012, OJ 2002, L 242 p.1.

30 See Article 192(3) TFEU.

31 Decision 1386/2013 on a General Union Environment Action Programme to 2020: Living well, within the limits of our planet, OJ 2013, L 354 p.171.

32 See Article 192 TFEU. The procedure for adopting EU environmental legislation is the one which is laid down in Article 294 TFEU.

The EU environmental policy and each specific measure that is taken shall be based on four environmental principles which are laid down in Article 191(2) TFEU and which apply next to the general principles mentioned above.³³ These are:

- » a) the precautionary principle
- » b) the principle of preventive action
- » c) the principle that environmental damage should be rectified at source
- » d) the polluter-pays principle

Principles in EU environmental law are a form of guidelines which help to interpret legally binding provisions; they do not form, in themselves, a legal basis for legislative action or binding rules which have to be respected at all times,³⁴ though they apply, via the provision of Article 11 TFEU, to all areas of EU legislation.

The precautionary principle means, according to the interpretation given to that principle by the EU Court of Justice, that in the case of scientific or technical uncertainty, the public authorities are entitled to take action in order to prevent harm to humans or the environment. The Court formulated as follows³⁵: “The precautionary principle can be defined as a general principle of Community law requiring the competent authorities to take appropriate measures to prevent specific potential risks to public health, safety and the environment, by giving precedence to the requirements related to the protection of those interests over economic interests.

Since the Community institutions are responsible, in all their spheres of activity, for the protection of public health, safety and the environment, the precautionary principle can be regarded as an autonomous principle stemming from the above-mentioned Treaty provisions. It is settled case-law that,

33 See fn1.

34 See generally L. Kramer-e. Orlando (eds) Principles of Environmental Law. Cheltenham (UK)-Northampton (USA) 2018.

35 General Court, case T-76/00 *Artogedana.o. v. Commission*, ECLI:EU:T:2002:283, paragraph 184. See also Court of Justice, cases C-157/96 *British Farmers Union*, ECLI:EU:C:1998:191, paragraph 63 and case C-180/96 *Commission v. United Kingdom*, ECLI:EU:C:1998:192, paragraph 99: “Where there is uncertainty as to the existence or extent of risks to human health, the institutions may take protective measures without having to wait until the reality and the seriousness of those risks become fully apparent”.

in the field of public health, the precautionary principle implies that where there is uncertainty as to the existence or the extent of risks to human health, the institutions may take precautionary measures without having to wait until the reality and seriousness of the risks become fully apparent".

The principle of preventive action complements the precautionary principle. It allows - or even might require - action to be taken in the case, where there is a known risk for human health or the environment. Several pieces of EU legislation are explicitly based on the principle of preventive action, for example Directive 2012/19 on the prevention of industrial accidents³⁶ or Directive 2011/92 which requires an environmental impact assessment before a permit for certain projects is granted.³⁷

The principle that environmental damage - some linguistic versions of Article 191(2) TFEU use the term "impairment" - is not often invoked in EU environmental law. The principle seems to favour the fixing of emission limit values. However, economic operators - producers, traders, operators of industrial installations - generally prefer the establishment of quality objectives rather than of emission limit values, because compliance with quality objectives can be much less easily controlled, because the measurement method and procedures are less precise and because normally many sources contribute to a pollution, so that the individual responsibility and liability for a pollution is less clearly established. The principle allows the legislature to resist any such pressure and regulate the source of pollution. Under EU law, though, there is no clear-cut decision, when emission limit values and when quality objectives are to be fixed, as demonstrated by the above-described evolution of EU environmental law. Rather, whether to take one or the other form of standards depends on the discretion of the law-maker.

The polluter-pays principle is an economic principle that found entrance in legal texts. In substance, it means that the costs of preventing or repairing damage to humans or to the environment should not be borne by public money (the taxpayer), but by the person who caused the pollution. Of course, it

is often not clear, who the polluter is³⁸. Again, public authorities have a wide margin of discretion to decide on the details of the application of this principle.³⁹ The principle is mainly applied in EU waste legislation and practice.

When elaborating environmental measures, the EU institutions also shall "take account" of available scientific data, environmental, economic and social conditions in the Union and in its regions and the potential benefits and costs of action or lack of action⁴⁰. As regards this last requirement, it has to be underlined that other versions of the EU Treaty than the English text speak of "advantages and charges" rather than of costs and benefits, as at the moment of drafting that provision it was consensus that not only the economic costs and benefits should be taken into consideration, but also the social and environmental costs and benefits and that this was better reflected by use of the terms "advantages" and "charges".⁴¹

11.3 THE EVOLUTION OF EU LAW ON EMISSIONS INTO THE ENVIRONMENT

The Treaty of 1958 which established the European Economic Community (EEC), the predecessor of the present EU, did not contain any reference to the environment, environmental protection or an environmental policy of the EEC. When the EEC began in the mid-1970s to legislate on the protection of

36 Directive 2012/19 on the control of major-accident hazards involving dangerous substances OJ 2012, L 137 p.1.

37 Directive 2011/92 on the assessment of the effects of certain public and private projects on the environment, OJ 2012, L 26 p.1.

38 An EEC Recommendation of 1975, OJ 1975, L 194 p.1, built the example of air pollution by cars: is the car producer the polluter, the car user who drives around, or the petrol producer who markets the polluting petrol? The public authorities have discretion to decide on this.

39 An example is found in Directive 2004/35 on environmental liability, OJ 2004, L 143 p.56: the Commission had proposed that when the polluter of environmental damage could not be identified or was unable to pay, then the public authorities should restore the impaired environment. However, the European Parliament and the Council found instead that this was not in compliance with the polluter-pays principle, as the public authorities were not the polluter; they rejected the proposal.

40 Article 191(3) TFEU.

41 At the moment of drafting, the English translation service had declared that in English language, "cost-benefits" also included social and environmental costs and benefits. Later, though, it turned out that this was not quite precise.

the environment by discharges or emissions⁴² of pollutants, it advanced pragmatically and without a coherent concept for all discharges into water, soil and air, such as an integrated permit concept. The European legislation did not either sharply separate between emissions into water, soil or air, but sometimes treated emissions, discharges or other releases into the different environmental media in one single piece of legislation.⁴³

The following subdivision into emissions to water, soil and air is made in order to clarify the approaches.

11.3.1 Water discharges

In the mid-1970s, when the European Union started to legislate on environmental questions, Member States were very reluctant to agree to measures on industrial installations. They argued in particular that installations did not circulate, but were stationary sources. Consequently, Member States (acting in the EEC Council) did not adopt a proposal for a Directive on the reduction of water pollution caused by wood pulp mills.⁴⁴

Subsequent to the adoption of European regional conventions on the protection of waters from dangerous substances, they accepted the adoption of a framework legislation (Directive⁴⁵) of 1976.⁴⁶ That legislation regulated dangerous substances which it divided into two groups, listed in an annex to the Directive. For a first list of substances that were toxic, persistent or bio accumulative, the Directive provided that future EEC legislation should fix emission limit values and quality objectives (concentration

limit values).⁴⁷ For a second list of - less dangerous - substances, the Member States had to establish and implement programmes which fixed quality objectives. All discharges of list I or list II substances had to be authorized.

List I provided for eight families of substances; a later list identified 129 substances which were to be regulated with priority.⁴⁸ Successively, legislation was adopted which fixed emission limit values for 17 substances. This legislation differentiated according to the emitting industrial installation and according to the nature of the water (inland surface water, estuary water, coastal water or territorial sea water). As an example, Directive 83/513 on cadmium discharges may be quoted in detail.⁴⁹ That Directive fixed emission limit values for zinc mining, lead and zinc refining, the cadmium metal and non-ferrous metal industry, the manufacture of cadmium compounds, pigments, stabilizers and batteries, and for electroplating. A footnote requested Member States to fix emission limit values for other industrial sectors, in particular for the production of phosphoric acid and/or phosphatic fertilizers from phosphatic rocks.

As the EEC at that time had to adopt environmental legislation at unanimity, progress was very slow, also because in particular the United Kingdom was against the adoption of emission limit values for industrial installations and preferred quality objectives. Member States were reluctant to transpose Directive 76/464 into their national legislation and fully apply it.⁵⁰ About one List I substances per year was regulated by legislation and in the early 1990s, the legislative efforts under Directive 76/464 were abandoned altogether.

The water policy was then changed and based on a new piece of legislation which aimed at obtaining

42 EU law does not sharply differentiate between "emissions" and "discharges", but uses these terms indifferently. Also the terms "quality objectives", "quality standards" or "concentration limits" are used indifferently, but all express the existing or future concentration of a pollutant in the water, the soil or the air. Unless otherwise indicated, these terms constitute binding requirements.

43 See for example, Directive 92/112 on procedures for harmonizing the programmes for the reduction and eventual elimination of pollution caused by waste from the titanium dioxide industry, OJ 1992, L 409 p.11; Directive 1999/13 on the limitation of emissions from volatile organic compounds due to the use of organic solvents in certain activities and installations, OJ 1999, L85 p.1. Both Directives deal with emissions into the water and the air.

44 Commission proposal OJ 1975, C 99 p.2.

45 Under Article 288 of the Treaty on the Functioning of the European Union (TFEU), a directive is "binding as to the result to be achieved, but shall leave to the national authorities the choice of forms and methods."

46 Directive 76/464 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community, OJ 1976, L 129 p.23.

47 Directive 76/464, Article 6. The Member States had to use the emission limit values, "except in cases where a Member State can prove to the Commission... that the quality objectives... are being met and continuously maintained".

48 EEC Council, Resolution of 7 February 1983, OJ 1983, C 46 p.17.

49 Directive 83/513 on limit values and quality objectives for cadmium discharges, OJ 1983, L 291 p.1.

50 In 1992, the Commission reported that it had started 40 infringement procedures against Member States for not completely complying with the requirements of Directive 76/464, Commission, answer to written question 1496/91, OJ 1992, C 202 p.7. The infringement procedure is regulated under the present Article 258 TFEU.

a good quality of water.⁵¹ That legislation provided for permits for the discharge of pollutants into the waters⁵² and favoured, for the rest, the adoption of quality objectives at European level. But its Article 16 announced that for priority dangerous substances European emission limit values for water discharges would be fixed which should lead to the complete end of such water discharges within a maximum period of twenty years. However, also this approach was abandoned, and subsequent water legislation limited itself to fix quality objectives for certain dangerous substances.⁵³ The only EU legislation which fixes emission limit values for discharges into waters by industrial installation is thus Directive 2010/75 on industrial emissions⁵⁴ which contains such limit values for incinerators (Annex VI part 5) and installations which produce titanium dioxide (Annex VIII part 1) and which will be discussed below.⁵⁵

11.3.2 Emissions into the soil

There is no comprehensive European legislation on the protection of the soil. The European waste legislation, which was progressively established since 1975, contained general provisions on the collection, treatment and disposal of waste, but no emission limit values.⁵⁶ There were only very few exceptions. One exception concerned the waste from the titanium dioxide industry. This was due to the fact that in the 1960s and 1970s, large quantities of waste from that industry had been discharged

into the Mediterranean Sea and had caused serious water pollution. The EEC legislated since 1978 on waste from the titanium dioxide industry,⁵⁷ but due to political difficulties only succeeded in 1992 to adopt legislation which contained emission limit values into the water and the air of waste from that industry.⁵⁸ This legislation was, in 2010, incorporated into Directive 2010/75 on industrial emissions.

Directive 86/278 contained quality objectives for sewage sludge.⁵⁹ When such sludge was used in agriculture, the concentration of certain heavy metals was not allowed to exceed certain levels that were fixed in the Directive. As the Directive was based on the present Article 192 TFEU, Member States were allowed, under Article 130t EEC Treaty (now Article 193 TFEU, to prohibit the use of sewage sludge in agriculture altogether, what some Member States did.

11.3.3 Emissions into the air

Human exposure to air pollution is considerably higher than exposure to water pollution, because the air is constantly breathed by humans. While both water pollution and air pollution have a considerable impact on the natural environment and hence also on humans, air pollution affects human health more directly than water pollution.⁶⁰ For this reason, the European air pollution legislation took right from the beginning the objective of protecting human health more carefully into consideration. It adopted air quality limit values for sulphur dioxide, lead and nitrogen dioxide⁶¹ which it based on the recommendations of the World Health Organization

51 Directive 2000/60 establishing a framework for Community action in the field of water policy, OJ 2000, L 327 p.1.

52 Directive 2000/60 (fn 12), Article 10.

53 See in particular Directive 2008/105 on environmental quality standards in the field of water policy, OJ 2008, L 348 p.84.

54 Directive 2010/75 on industrial emissions (integrated pollution prevention and control) OJ 2010, L 334 p.17.

55 Directive 91/271 concerning urban waste water treatment, OJ 1001, L135 p.40, allows certain industrial sectors, in particular of the food industry, to discharge their waste water into the urban waste water treatment systems. However, no emission limit values are set either in this regard.

56 See for example Directive 75/442 on waste, OJ 1975, L 194 p.23; Directive 76/403 on the disposal of PCB/PCT, OJ 1976, L 108 p.41; Directive 78/319 on toxic and hazardous waste, OJ 1978, L 84 p.43; all these Directives are no longer in force. At present, EU legislation on waste is mainly concentrated in Directive 2008/98 on waste, OJ 2008, L 312 p.3. This Directive does not contain either emission limit values or quality objectives. Apart from that Directive, there is legislation on different waste streams- such as packaging waste, end-of life vehicles, electrical and electronic waste or mining waste. Furthermore, landfills and port reception facilities for waste are regulated and waste incinerators and co-incinerators are regulated under Directive 2010/75.

57 Directive 78/176 on waste from the titanium dioxide industry, OJ 1978, L 54 p.19; see also Directive 82/883 on the modalities of surveillance and control of such waste discharges, OJ 1983, L 378 p.1.

58 Directive 92/112 (fn 4).

59 Directive 86/278 on the protection of the environment, in particular of the soil, when sewage sludge is used in agriculture, OJ 1986, L 181 p.6.

60 Article 191(1) TFEU explicitly provides that EU environmental policy shall contribute to "protecting human health".

61 Directive 80/779 on air quality limit values and guide values for sulphur dioxide and suspended particulates, OJ 1980, L 229 p.30; Directive 82/884 on a limit value for lead, OJ 1982, L 378 p.15; Directive 85/203 on air quality limit values for nitrogen dioxide, OJ 1985, L 87 p.1.

(WHO).⁶² Later, this legislation was updated and extended to further pollutants⁶³, always keeping the evolving WHO recommendations in mind. At present, 2018, air quality limit values in the EU are laid down in Directive 2008/50 which establishes air quality limit values for sulphur dioxide, nitrogen dioxide, oxides of nitrogen, carbon monoxide, benzene, particulate matters (PM10 and PM2.5) and tropospheric ozone.⁶⁴

The fact that the air quality Directives explicitly referred to the WHO and to the need to protect human health, had important consequences. Indeed, the European Court of Justice decided that the air quality Directives had the objective to protect the health of persons and that therefore, the Member States had to adopt specific legislation which transposed the requirements of each Directive into the national legal order; they were not allowed to adopt provisions which only contained obligations for the public authorities.⁶⁵ Rather, individual persons and environmental organizations had, for reasons of legal certainty, the right to find back the applicable values laid down in a general, binding piece of legislation; furthermore, they had the right to address the national court when the limit values were exceeded and ask for specific measures to be taken.⁶⁶ Governments were obliged to keep any period, where the limit values were exceeded, as short as possible, and the courts were entitled to

control, whether Governments complied with this obligation.⁶⁷

While the European legislation on air quality limit values, as discussed above, was mainly motivated by concerns for the protection of human health and the environment, the legislation on emissions from industrial installations⁶⁸ also had another origin and aim: at the end of the 1970s and the early 1980s, Scandinavian countries (Norway, Sweden, Finland) and later on Germany, Denmark and Netherlands were confronted with acid rain precipitations, which caused considerable damage to the natural environment such as forests, lakes or rivers. It was suspected but never completely proven that the origin of this pollution came from the United Kingdom which had introduced, since the 1950s, a “high-stack-policy” for its industrial installations which was intended to better disperse air pollutants in the environment.

As, in particular, Germany had a somewhat emotional relationship to forests, Germany brought the issue on the agenda of a meeting of the heads of State and Governments of the EEC in 1983, where it was decided that effective measures should be adopted by the EEC to reduce air pollution. One of those measures was the adoption of Directive 84/360 on the combating of air pollution from industrial plants.⁶⁹ This Directive did not yet fix emission limit values, but set a framework for future, more detailed legislation. It covered overall 19 categories of industrial plants which were enumerated in an Annex and provided that the operation of such plants needed a permit. The permit had to be based on the best available technology not entailing excessive costs.

The intention to subsequently elaborate on emission limit values in legislation for the different industrial sectors mentioned in the Annex to Directive 84/360 was not realized. Only two such Directives were adopted, on emissions from large combustion plants⁷⁰

62 See Directive 80/779 (fn 23), recital 4: “whereas to protect human health in particular, it is necessary to set for these two pollutants [sulphur dioxide and suspended particulates] limit values which must not be exceeded in the territory of the Member States during specific periods; whereas these values should be based on the findings reached in the framework of the WHO, particularly with regard to the dose/effect relationships for sulphur dioxide and/or suspended particulates taken together.” In the same way Directive 85/203 (fn 23), recital 5.

63 See Directive 96/62 on ambient air quality assessment and management, OJ 1996, L 296 p.55; Directive 1999/30 relating to limit values for sulphur dioxide, nitrogen dioxide, oxides of nitrogen, particulate matter and lead in ambient air, OJ1999, L 163 p.41; Directive 2000/69 relating to limit values for benzene and carbon monoxide in ambient air, OJ 2000, L 313 p.2; Directive 2002/3 relating to ozone in ambient air, OJ 2003, L 67 p.14; Directive 2004/107 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air, OJ 2005, L 23 p.3. This last Directive does not fix air quality limit values.

64 Directive 2008/50 on ambient air quality and cleaner air for Europe, OJ 2008, L 152 p.1.

65 EU Court of Justice, case 361/88, Commission v. Germany, ECLI:EU:C:1991:224.

66 EU Court of Justice, case C-237/07, Janecek, ECLI:EU:C:2008:447.

67 EU Court of Justice, case C-404/13 ClientEarth, ECLI:EU:C:2013:805.

68 There are also some EU-wide limit values for emissions from mobile sources, such as motor vehicles, machinery, or vessels. However, this legislation will not be discussed here, as it is outside the scope of the study.

69 Directive 84/360, OJ 1984, L 188 p.20.

70 Directive 88/609 on the limitation of emissions of certain pollutants into the air from large combustion plants, OJ 1988, L 336 p.1.

and on waste incineration installations.⁷¹ In 1996, Directive 84/360 was replaced by a new Directive on integrated pollution prevention and control.⁷² The main objective of this Directive was the departure from the concept of elaborating legislation for the different categories of industrial installations. Instead, the permits had to be “integrated”,⁷³ and be based on the best available techniques. Directive 96/61 was in turn replaced by Directive 2008/1.⁷⁴ In 2010, finally, Directive 2010/75 was adopted⁷⁵ which replaced Directive 2008/1 and, furthermore, included several earlier directives in its field of application. This Directive will be discussed in detail below.

Following international agreements, the EU also adopted a Directive on national emission ceilings. This Directive in its present version requires EU Member States to reduce their polluting substances in the air by a certain percentage, compared to 2005.⁷⁶ Such an approach might be seen as another form of setting quality objectives. The problem with this Directive is that the quantities of pollutants which were emitted in 2005, are not laid down in the EU legislation, so that monitoring of compliance - which is complicated anyway - is, in law, hardly possible.

11.4 THE RELATIONSHIP BETWEEN QUALITY OBJECTIVES AND EMISSION LIMIT VALUES

Soon after the beginning of the elaboration of environmental legislation at EU level, the legislature became aware of the problem that there might be a conflict between environmental quality objectives and environmental emission limit values. Indeed, where several permits were granted to emit pollutants into the water or the air, the combined, cumulative effect of the permitted emissions might be that the quality objectives, laid down in legislation, were exceeded.

In order to address the problem, in the area of water policy, Directive 2000/60 provided that where the respect of existing water quality objectives required the adoption of stricter emission limits, such measures had to be taken.⁷⁷ The Directive thus fixed the quality objectives as the limit which was not to be exceeded. The same approach was taken with regard to air quality. Already Directive 80/779 stated that from a certain date onwards, its limit values were not to be exceeded and Member States had to take measures in order to comply with them⁷⁸. The same requirement was repeated by Article 8 of Directive 96/62.⁷⁹ Articles 22 and 24(2) of Directive 2008/50 which is presently in force, explicitly enumerate that such measures to respect the air quality requirements and to bring down any exceeding of air quality limit values, may include “the use of industrial plants and products”⁸⁰. It has to be underlined that the economic costs of such measures are considered irrelevant: the requirement which was found in the early EU air quality legislation according to which any measures to respect the quality

71 Directive 89/369 on the prevention of air pollution from new municipal incineration plants, OJ 1989, L 163 p.32; Directive 89/429 on the reduction of air pollution from existing municipal waste incineration plants, OJ 1989, L 203 p.50; Directive 94/67 on the incineration of hazardous waste, OJ 1994, L 365 p.34. In the year 2000, these Directives were merged into Directive 2000/76 on the incineration of waste, OJ2000, L 332 p.91.

72 Directive 96/61 on integrated pollution prevention and control, OJ 1996, L 257 p.26.

73 See Directive 96/61 (fn 34) Article 7: “Integrated approach to issuing permits. Member States shall take the measures necessary to ensure that the conditions of, and procedures for the grant of the permit are fully coordinated where more than one competent authority is involved, in order to guarantee an effective integrated approach by all authorities competent for this procedure.”

74 Directive 2008/1 concerning integrated pollution prevention and control, OJ 2008, L 24 p.8.

75 Directive 2010/75 (fn 15).

76 Directive 2016/2284 on the reduction of national emissions of certain atmospheric pollutants, OJ 2016, L 344 p.1.

77 Directive 2000/60 (fn 12), Article10(3): “Where a quality objective or quality standard... requires stricter conditions than those which would result from the application of paragraph 2, more stringent emission controls shall beset accordingly”.

78 Directive 80/779 (fn 23), Article3(2). and Directive 85/203 (fn 23) Article 3(2).

79 Directive 96/62(fn 24).

80 Article 24 (2) of Directive 2008/50 enumerates motor vehicle traffic, construction works, ships at berth, the use of industrial plants and products and domestic heating. As Directive 2008/50 is based on Article 192TFEU, Member States may maintain or introduce more stringent protective measures at national level, see Article 193 TFEU. This means that the enumeration in Article 24(2) of Directive 2008/50 is not exhaustive, but allows also other measures to be taken.

objectives “must be economically feasible”⁸¹, did not appear anymore in Directive 96/62 and Directive 2008/50.

The legislation on industrial installations points in the same direction. Already Directive 84/360 stated that a permit could only be granted to an industrial installation when compliance with existing air quality standards was ensured.⁸² This requirement was repeated in Directive 96/61.⁸³ Directive 2010/75 which is presently in force, now states⁸⁴: “Where an environmental quality standard requires stricter conditions than those achievable by the use of the best available techniques, additional measures shall be included in the permit...”

It thus can be safely concluded that under EU law, the quality objectives which are laid down for water discharges or air pollution, prevail over emission limit values which are laid down in the legislation on emissions from industrial installations, motor traffic or other pollution sources. This is also logical: quality objectives are fixed in order to protect human health and the environment, as the legislature concluded that an exceeding of the quality objectives would put the human health or the environment at risk. In contrast, emission limit values do not have this direct relationship with the protection of human health or the environment: the emissions which are authorized in a permit for a specific operator may be, per se, small; however, when numerous permits for small emission permits are granted to different operators, the overall quality of the air or the water might be very bad.

81 Directive 80/779 (fn 23) Recital 7; Directive 85/203 (fn 23) Recital 8.

82 Directive 84/360 (fn 31), Article 4 no 4.

83 Directive 96/61 (fn 34), Article 10.

84 Directive 2010/75 (fn 15), Article 18.

12. Annex 2 - EU regulation of industrial emissions

12.1 ALTERNATIVE APPROACHES, ENVIRONMENTAL QUALITY OBJECTIVES, INDUSTRY- AND POLLUTANT- SPECIFIC REGULATION, END OF PIPE SOLUTIONS

In the beginning of the 1970s, when concern for the environment grew in Europe and the then EEC (now the EU) stated to adopt legislation to protect the environment, there were essentially two approaches with regard to the pollution of industrial installations: on the one hand, the approach which predominated on the European continent⁸⁵ which intended to regulate industrial emissions by fixing emission limit values for the different types of industry.⁸⁶ On the other hand, the approach which prevailed in the United Kingdom and which favoured the adoption of quality objectives (concentration limits). The United Kingdom was of the opinion that the geography in Europe was so different that the same legislative approach could not be applied. It argued that while in the United Kingdom, the rivers were short, ran quickly and transported any pollutant quickly to the sea, rivers in continental Europe were long, flew slowly and had many pollutants sunk down to the sediments of the rivers; in coastal waters, the tide would quickly wash away any pollutant.

At the same time, it was acknowledged by both sides that emission limit values could be much more easily controlled than quality objectives, as the control instrument just had to be placed at the point, where the emissions left the industrial site. As regards quality objectives (quality standards), the measuring point had to be determined each time; it was always doubtful, whether it was representative for a specific installation, for a region or for the wider environment, as other pollution sources might contribute to the concentration of pollutants in the environment. Also, with several polluters, the responsibility for the pollution could not be easily placed on the industrial installation.

These different approaches led to animated discussions between the European institutions and Member States, as environmental legislation had at that time to be adopted at unanimity. As mentioned above, the final compromise of Directive 76/464 allowed both approaches.

The position defended by the United Kingdom largely ignored the fact that toxic pollutants such as heavy metals, or other persistent or bio accumulative pollutants do not disappear, when they are emitted into the air or the water, but accumulate in the environment.⁸⁷

There was consensus in the EEC that industrial emissions into air and water should respect the "best available techniques", to which both Directive 76/464 on water discharges and Directive 84/360

85 This attitude on the European continent is evidenced by a statement which eight of the then nine EEC Member States made at the moment of the adoption of Directive 76/464, where they declared that they would only concur to the fixing of emission limit values for discharges of pollutants to water

86 This approach is at the same time an approach which might be called "end-of the pipe" approach, as (only) the output of emissions is controlled, which leaves the industrial installation site. Naturally, the emission limit values also have to differentiate between the different categories of industry: for example, the emission of heavy metal pollutants might be much higher from an installation which processes metals than from an industry which just deals with the rearing of poultry.

87 A recent evidence of this is the Minamata Convention of 10 October 2013 which is a late follow-up to the Minamata incident (Japan), where some 3000 people died and some 17.000 persons were injured by the discharge of mercury waste water into the sea by an industrial installation since the 1950s.

on air emissions referred.⁸⁸ But the adoption of EEC legislation on emission limit values for discharges into the water and emissions into the air only progressed very slowly, due to the requirement of finding unanimous solutions in a relatively new area of law, the fact that industry and its representatives were very well organized at national and at EEC level and had a considerable influence on the law-making, and due to the fact that the environment had - and has - no voice and no well-organized and influential representatives to defend its interests.

Continental EEC Member States progressively recognized, also under the influence of industry representations, that the monitoring of emission limit values would require a very tight control and supervision system: Most of those Member States did not have personal resources sufficient to have such a network of inspectors, auditing and surveillance officials, and were not inclined to set up administrative unities to properly deal with these issues. Furthermore, the development of new technical production methods required a continuous updating of the emission limit values in order to respect the basic requirement of industry's using the best available techniques.

This led the continental Member States to accept that emission limit values for industrial installations were no longer fixed at EU level. That shift of attitude is reflected in Directive 96/61⁸⁹ which went away from the emission-limit approach of Directive 84/360,⁹⁰ at the same time, the approach agreed in Directive 76/464⁹¹ was no longer pursued.

Directive 96/61 had expressed that Member States should proceed to an exchange of information on the representative data on emissions and on best available techniques. If it turned out, that common measures were necessary, the EU should fix common emission limit values.⁹² More or less the same approach was pursued by Directive 2008/1⁹³ which

replaced Directive 96/61. However, this exchange of information and the elaboration of documents on the best available techniques, the so-called BREF-documents-did not lead to significant changes at the level of Member States. As the BREF-documents were not legally binding but rather constituted some form of recommendations, Member States did normally not see the need to change the permit conditions and impose stricter emission limits to their industries. The fear that stricter emission limit values in national legislation or in individual permits might disadvantage the national industries with regard to other EU competitors, has certainly also played some role.

It was for this reason that Directive 2010/75 introduced the innovation that the BAT conclusions -which are the resume of the different BREF-documents - should be legally binding and that the permits which were issued by the Member States authorities should be in compliance with these BAT-conclusions. The adoption of these BAT-conclusions by the Commission is, of course, again subject of prolonged discussions, which try to find a balance between the - often short- and medium-term - interests of industry and the - also long-term - interests of the environment.⁹⁴

It follows from these observations that the EU since the very early days of adopting legislation on the protection of the environment, agreed that industrial emissions should be subject to the principle of "best available techniques". There was disagreement, to what extent the limits for emissions into the environment which were to be imposed on industrial installations, should be fixed with precision in European legislation, or whether this should be done at national - in federally structured Member States perhaps at regional level, and to what extent each permitting authority should decide by itself, which permit conditions it imposed.

The presently applicable solution, laid down in Directive 2010/75, is that the EU fixes a range of permit conditions, including limits for the emissions of pollutants and that the permits which are granted at the level of the EU Member States, remain within the limits which had been drawn by the EU range, in particular also the conclusions on best available

88 There is no difference between "best available technologies", the term used in Directive 84/360 and "best available techniques, used in Directive 2010/75 (fn 15). Directive 76/464 (fn 7), Article 6, used the term "best technical means available."

89 Directive 96/61 (fn 34).

90 Directive 84/360 (fn 31)

91 Directive 76/464 (fn 7).

92 Directive 96/61 (fn 34), Articles 16 and 23

93 Directive 2008/1 (fn 36).

94 Evidence for such protracted discussions is the fact that the Commission declared that 31 BAT reference documents had been adopted by the end of 2017, but that by August 2018, only 14 BAT conclusions had been adopted by the Commission.

techniques established by the Commission. At the same time, all national, regional and local authorities had to ensure that the permits, individually or together with other permits and with emissions into the environment from other sources - traffic, households, agriculture etc. - respect the environmental quality objectives which were fixed at EU level.⁹⁵

It follows from what was described earlier that the EU tried, in the beginning of environmental law-making, to adopt the alternative approach of end-of-the-pipe solutions (emission limit values), developed for each individual category of industry. However, this approach was given up. The reasons for this change of policy were never officially explained. They lie probably in the very long duration of the legislative process⁹⁶, the resource-intensive requirement for the public authorities to monitor and control the installations, the pressure from industry to avoid (strict) legislation, the attempt not to impair industry too much, as it created jobs and wealth, the absence of an environmental lobby etc.

12.2 TRANSITION TO INTEGRATED ENVIRONMENTAL LEGISLATION

EU primary law, the EU Treaties, is no obstacle to this approach, as sketched out above. It is true that Article 191 (2) TFEU mentions that EU environmental policy - and environmental legislation - should, by priority, rectify environmental damage at source. However, this requirement leaves a large margin of discretion to the legislature. There is EU legislation which tries to rectify environmental damage by source by fixing emission limit values, for example by prohibiting the use of certain polluting substances,⁹⁷ authorizing the use of substances or products

etc. The overall approach of the EU remains well within the margin of discretion which the principles of Article 191(2) TFEU provide; and legislation by the EU has never been tackled in court with the argument that it did not respect the rectification at source-principle of Article 191(2) TFEU.

There are no other requirements under EU primary law which impose a specific approach to rectify pollution emissions from industrial operators.

When the BAT reference documents are elaborated at EU level, which later are condensed to binding BAT conclusions, there is a close and very intense cooperation between the EU institutions, the Member States authorities, industry and civil society. Article 13 of Directive 2010/75 provides that the Commission shall organize an exchange of information between Member States, the industries concerned, non-governmental organizations promoting the protection of the environment and the Commission. For this purpose, the Commission established and regularly convened a forum composed of these stakeholders.⁹⁸ Because of their know-how and the fact that they are economic operators, industry representatives play a very prominent, if not dominant role in the Forum and in the working groups which the Forum sets up to elaborate the BAT reference documents.

For reasons of the subsidiarity principle, the EU does not intervene in the question, how the Member States organize the permitting, inspection and enforcement authorities. Some, in particular smaller Member States have organized the administrative structures to ensure the application of Directive 2010/75 at central level. Others have delegated the powers to regions, provinces or municipalities. Also, the question, whether permitting inspection and enforcement functions are vested in one and the same public authority or whether several public authorities should share these tasks, is left in the hands of Member States and regulated differently. In Germany, a federal State, there are even differences in this regard between the regions.

The EU is not either competent to decide that Member States shall grant only one permit which contains all the different conditions for the construction and operation of the installation. Again, this question is in the competence of the Member States.

95 Under Article 193 TFEU, Member States were also entitled to set more stringent quality objectives at national level.

96 For example, the legislation on emissions from the titanium dioxide industry took some 16 years (1976 till 1992); Directive 88/609 on large combustion plants, OJ 1988, L 336 p.1 was replaced, in 2001, by Directive 2001/80, OJ 2001, L 309 p.1, without any significant strengthening of the emission limit values; the slow progress of the directives on water discharges from industries was already mentioned.

97 See for example Regulation 2017/852 on mercury, OJ 2017, L 137 p.1; Regulation 443/2009 on CO₂ emissions from motor vehicles, OJ 2009, L 140 p.1.; Regulation 595/2009 on emissions from heavy duty vehicles, OJ 2009, L 188 p.1., Regulation 1907/2006 on chemicals, OJ 2006, L 396 p.1; Regulation 1005/2009 on ozone-depleting substances, OJ 2009, L 286 p.1 etc.

98 See Commission Decision 2011/C 146/03 on the establishment of the Forum, OJ 2011, C 146 p.3. The names of the experts, members of the Forum, are not accessible.

Overall, Directive 2010/75 leaves no doubt that it considers it preferable to have such one single integrated permit for an installation which includes all the elements mentioned above. The clearest expression of this preference is found in Article 5(2) of the Directive which reads: "Member States shall take the measures necessary to ensure that the conditions of and the procedure for the granting of the permit are fully coordinated when more than one competent authority or more than one operator is involved or more than one permit is granted, in order to guarantee an effective integrated approach by all authorities competent in the procedure."

However, Member States may have good reasons for involving more than one authority in the permitting procedure. For example, for historical reasons water management in Germany is in the hands of well-established regional authorities and based on regional legislation. Germany does not see any reason to modify its constitution and transfer the competence for water issues to other bodies; thus it normally grants two permits for industrial installations which come under Directive 2010/75, one general permit and one for water issues. Other such examples might be found for fire safety, accident prevention, occupational safety or nature protection. The EU is thus well advised not to intervene in the grown administrative structures of Member States. It is clear that for an economic operator who applies for a permit, it is more convenient to have to deal with only one public authority; in this case, though, industry's interests did not prevail, neither at EU level nor in numerous EU Member States.

Directive 2010/75 does not provide for obligations to train economic operators or public authorities. Vocational training is the competence of the EU Member States, not of the EU. In practice, though, there are very numerous official and unofficial meetings between the EU institutions and Member States to discuss the implementation and application of Directive 2010/75.⁹⁹ Also the adoption of BAT-conclusions is not done by the Commission alone, but follows the so-called comitology procedure: the Commission submits a draft proposal for the decision to a group of Member States representatives, where the proposal is discussed, if need there is, at length, and finally accepted. Only then the Commission adopts the BAT conclusions by decision.¹⁰⁰

99 See for details also the Commission's implementation report (fn 100).

100 See for details Directive 75/2010 (fn 15), Article 75.

The Commission organizes workshops, conferences and other meetings with Member States, industries and the general public, attends similar events organized by industry, Member States, civil society or universities; it publishes guidance¹⁰¹ or other information documents etc. Overall, the existence and practical application of Directive 2010/75 gives rise to an animated, sometimes controversial discussion within the European Union, in different intensity from one Member State to the other, according to the interest which stakeholders have in this topic.

The BAT conclusions are adopted by a legally binding decision by the Commission. They "shall be the reference for setting the permit conditions".¹⁰² While the BAT reference documents are only elaborated in one language - English -, the BAT conclusions are published in the EU Official Journal exist in all 24 official EU languages.¹⁰³ As they are binding for public authorities in the Member States, industry has a considerable interest to keep the conclusions as general as possible and the margin of discretion for the permitting authorities as large as possible. The final decision in this regard is in the hands of the Commission and the Committee under Article 75 of the Directive, which must weigh the environmental, economic and social interests at stake.

12.3 PERMITS UNDER EU ENVIRONMENTAL LAW

The EU grants permits for some substances or products, such as chemicals, genetically modified products, or active substances in pesticides or biocides. However, generally the granting of permits is in the responsibility of the Member States. This applies in particular to industrial installations, including nuclear installations, where each Member State decides for itself, if and what kind of installations it wants to have in its territory. EU legislation only exceptionally deals with issues on the construction of

101 See for example Commission Implementing Decision 2017/119 laying down rules concerning guidance on the collection of data and on the drawing up of best available techniques reference documents and on their quality assurance referred to in Directive 2010/75, OJ 2017, L 201 p.613.

102 Directive 2010/75 (fn 15), Article 15(2).

103 Directive 2010/75 (fn 15), Article 13(6).

an installation, and then, only in general terms.¹⁰⁴

Member States are better placed to take into consideration for example the geographical aspects, the existing urban agglomerations, the nature conservation areas, the security and other aspects of a site when granting a construction and/or operation permit. EU legislation regarding permits is thus mainly framework legislation which asks Member States to issue a permit for this or that activity and puts conditions on the location of an installation - see the impact of Directive 92/43, mentioned above - its operation - see the requirement to respect quality objectives - or other elements.

The evolutionary development of EU environmental regulation has resulted in member states putting in place arrangements for authorising or permitting an increasing number of activities and installations. These authorisations or permits are required to be in place for an installation to operate.

Permits are generally required for industrial or agricultural installations, waste or mining waste operations, discharges to the sea, rivers, streams or groundwater. EU environmental directives specifying activities or installations requiring regulation or permitting include the following:

- » a) Industrial Emissions Directive (IED) 2010/75¹⁰⁵
- » b) Waste Framework Directive 2018/851¹⁰⁶
- » c) Landfill Directive 1999/31
- » d) Waste Electrical and Electronic Equipment Directive 2012/19
- » e) Asbestos Directive 2009/148
- » f) Petrol Vapour Recovery Directive 2209/126
- » g) Mining Waste Directive 2006/21

¹⁰⁴ See for example Directive 2010/75 (fn 15), Article 46(1) which states that waste gases from incineration plants shall be discharged "by means of a stack the height of which is calculated in such a way as to safeguard human health and the environment". Another example is Directive 1999/31 on landfills, OJ 1999, L 182p.1, which provides in Annex I, paragraph 1(1.1.a) that the siting of landfills shall not pose a serious environmental risk

¹⁰⁵ Directive 2010/75 (fn 15), Article 4

¹⁰⁶ The issuing of a permit is a means to achieving the objectives of the Directive

- » h) Water Framework Directive 2000/60
- » i) Groundwater Directive 2006/118
- » j) Urban Waste Water Treatment Directive 1991/271
- » k) Directive on the Health Protection of the General Public against the Dangers of Ionising Radiation 2013/59
- » l) Supervision and Control of Shipments of Radioactive Waste and the Shipments of Radioactive Substances Directives 2006/117

The EU and member states have endeavoured to consolidate the number of permits an installation or activity requires, in order to reduce the administrative work on the operator of the installation and the regulator. There has also been a drive to consolidate the number of competent authorities responsible for the permitting, inspection and enforcement of the permits. This has been influenced by the historic structure of regulation in member states with some activities or releases being regulated at state, region or city level. There may be a barrier to or strong reasons not to implement integrated (across activities or media) permitting, inspection and enforcement. As a result releases to air, water and land/soil, and waste activities may continue to be separately regulated. In many member states responsibilities are split between national, regional and city governments depending on the size, complexity or environmental risk of the activity or installation.

The most elaborate system of pollutant discharge permits in EU law is established in Directive 2010/75. Water and waste EU legislation contain general requirements for permits. However, they do not specify which conditions or limit values the permits must contain. The general approach is that the environment shall not be impaired. Details for the conditions of permits are left to the member state national legislation or permitting authorities.

The next sections give examples of where permitting is used to control emissions to a single medium and/or where a non-integrated approach may be applied.

12.3.1 Water Permitting

The EU water framework Directive 2000/60 provides in Article 10 that all discharges into surface waters which are allowed under relevant EU water legislation, are controlled; whether this is done through a permit system or otherwise is left open.

For emissions into the groundwater, Article 6 of Directive 2006/118 contains a similar, though rather complicated provisions. Directive 91/271 which deals with urban waste water, refers to discharges of such waste water, but does not address permit requirements.

The Directive 2000/60¹⁰⁷ sets requirements on river basin and flood risk management, water scarcity and droughts, drinking water and bathing water. The aims of the Directive are:

- » a. prevent further deterioration of aquatic ecosystems
- » b. protect and enhance their status
- » c. promote sustainable water use
- » d. provide further protection to the aquatic environment
- » e. for groundwater, to ensure the progressive reduction of the present level of pollution and prevent its further pollution
- » f. contribute to mitigating the effects of floods and droughts

The Directive sets requirements¹⁰⁸ on urban waste water, agricultural discharges and industrial discharges where not covered by an installation regulated under Directive 2010/75 or a waste installation. Environmental permits are required for the discharge or entry to surface waters: ground water, inland freshwaters; coastal waters; or relevant territorial waters (not groundwater) of any poisonous, noxious or polluting matter; waste matter; trade effluent or sewage effluent. It is an offence to discharge without or outside of the requirements of a permit.

The competent authority must set conditions to ensure compliance with the mandatory environmental quality standards (EQSs). For most of the substances covered by the EQSs, the competent authority will set numerical limits in permits, so that compliance results in the waters meeting the EQS. Microbiological quality is controlled through specifying treatment levels that must be achieved prior to the discharge.

107 Directive 2000/60 Article 1

108 Directive 2000/60 Article 4

12.3.2 Waste Permitting

As regards the protection of the soil, the EU waste legislation contains detailed requirements for permits, in particular for waste incineration installations¹⁰⁹ and for landfills.¹¹⁰ Any landfill needs a permit and a non-authorized landfill may not be operated. The permit conditions for landfills are laid down in detail in the Directive. Furthermore, all waste treatment and disposal installations need a permit. The conditions for such permits are specified in detail in the waste Directive 2008/98, but do not contain emission limit values for water, soil or the air.¹¹¹ Rather, there is a general requirement in Directive 2009/98, according to which waste management shall not damage human health or the environment.¹¹² The permit conditions complement for all installations that are not covered by Directive 2010/75 the requirements laid down in that Directive 2010/75.¹¹³ A narrow exemption from the permit requirement is laid down for installations which deal with their own waste.¹¹⁴

Directive 2008/98 covers bio-waste, by-products and criteria for the end of waste. Any installation undertaking or intending to carry out waste treatment requires a permit. Waste treatment is described as any recovery or disposal operations, including preparation prior to recovery or disposal. Waste recovery installations and waste disposal installations processing their own non-hazardous waste at the place of production can be exempted from the need for a permit.

A permit¹¹⁵ is normally required if a business uses, recycles, treats, stores or disposes of waste or mining waste. The permit can be for all activities at one site or for mobile plant used at many sites. A

109 See for waste incinerators Directive 2010/75 (fn 15).

110 Directive 1999/31 (fn 72).

111 Directive 2008/98 (fn 18)

112 Directive 2008/98 (fn 18), Article 31: "Member States shall take the necessary measures to ensure that waste management is carried out without endangering human health, without harming the environment, and, in particular: (a) without risk to water, soil, plants and animals; (b) without causing a nuisance through noise and odours, and (c) without adversely affecting the countryside or places of special interest".

113 Directive 2008/98 (fn 18), Article 27(2).

114 Directive 2008/98 (fn 18), Article 24: " Member States may exempt from the requirement [of a permit] establishments or undertakings for the following operations (a) disposal of their own non-hazardous waste at the place of production (b) recovery of waste".

115 Directive 2008/98 Article 4

separate permit is required for a waste transporter, buyer, seller, broker or dealer.

To decide if a permit can be issued the waste hierarchy must be considered¹¹⁶:

- » a) prevention;
- » b) preparing for re-use;
- » c) recycling;
- » d) other recovery, e.g. energy recovery
- » e) disposal

Departure from the waste hierarchy is possible for specific waste streams, when justified by an assessment of the life-cycle, taking account of the overall impacts of the generation and management of the waste.

The Directive¹¹⁷ requires that waste shall be collected separately if technically, environmentally and economically practicable and not mixed with other waste or other material with different properties. Permits may be granted for a specific period and maybe renewable. Permits must specify:

- » a) the types and quantities of waste that may be treated
- » b) for each type of operation permitted, the technical and any other requirements relevant to the site concerned
- » c) the safety and precautionary measures to be taken
- » d) the method to be used for each type of operation
- » e) such monitoring and control operations as may be necessary
- » f) such closure and after-care provisions as may be necessary

Permits must be refused if the intended method of treatment is unacceptable from an environmental protection perspective.

Many waste installations and activities are now regulated through the IED Directive 2010/75.

12.3.3 Air Quality Permitting

As regards permit provisions in relation to air, the air quality framework Directive 96/62 was repealed by Directive 2008/50.¹¹⁸ Directive 2008/50 itself does not contain any permitting provisions. All provisions in this regard are thus found in Directive 2010/75.

The protection of air quality has been a major driver to the implementation and development of the permitting of industrial activities and installations. Directive 2008/50¹¹⁹ on ambient air quality and cleaner air for Europe combined several previous directives on ozone, sulphur dioxide, particulate matter (PM10), nitrogen dioxide, Lead, Carbon monoxide, Benzene, Ozone, Arsenic, Cadmium, Nickel, Polycyclic Aromatic Hydrocarbons and set new air quality objectives for PM2.5 (fine particles). It allowed natural sources of pollution to be taken into account when assessing compliance against limit values.

Air quality standards are generally now sought to be achieved through the IED Directive 2010/75, fuel standards, vehicle emission standards, climate and energy policies.

Some directives specifically require the permitting of emissions to the air. Directive 2015/2193 on the limitation of emissions of certain pollutants into the air from medium combustion plants (Medium Combustion Plant (MCP) Directive) regulates pollutant emissions from combustion plants with a rated thermal input equal to or greater than 1 megawatt (MWth) and less than 50 MWth. Directive 2009/126/EC regulates fuel storage and distribution. Member states may also require the permitting of other installations not included in the IED Directive 2010/75 for emissions to air to achieve air quality objectives.

12.4 Directive 2010/75 on industrial emissions

12.4.1 Introduction

The Industrial Emissions Directive 2010/75 is the main EU instrument for regulating pollutant emissions from industrial installations. The directive was

¹¹⁸ Directive 2008/50 (fn 26), Article 31.

¹¹⁹ Although not explicitly required to achieve air quality standards, it may be necessary to permit installations which contribute to adverse air quality as a means of regulating their emissions

¹¹⁶ Directive 2008/98 Article 4

¹¹⁷ Directive 2008/98 Article 10

adopted on 24 November 2010 and entered into force on 6 January 2011. It aims to achieve a high level of protection of human health and the environment taken as a whole by reducing harmful industrial emissions across the EU, in particular through better application of Best Available Techniques (BAT).

Directive 2010/75 was preceded by several other EU directives concerning industrial emissions.¹²⁰ The revision of the latest of these previous Directives, Directive 2008/1¹²¹ was due to significant concern within the EU that the provisions on permits for industrial installations were dispersed in different pieces of legislation, not always coherent among each other and that the application of that Directive had not led to a sort of level playing field, where more or less similar obligations on industrial installations were applied.

Across the EU there are around 50,000 installations undertaking the industrial activities listed in Annex I of the directive.¹²²

Key features of Directive 2010/75 are:

- » a) installations are required to operate in accordance with a permit (granted by the authorities in the Member States)
- » b) permit contains conditions are set in accordance with the principles and provisions of the directive¹²³
- » c) mandatory requirements on environmental inspections¹²⁴
- » d) the public has a right to participate in the

decision-making process, and to be informed of its consequences, by having access to permit applications, permits and the results of the monitoring of releases

- » e) the scope of installations to be regulated are specified including how they are to be regulated

The Directive 2010/75 specifies installations and activities¹²⁵ which require a permit to operate.

- » a) Energy: combustion, gasification, liquefaction and refining activities.
- » b) Metals: ferrous metals, non-ferrous metals, surface treating metals and plastic materials.
- » c) Minerals: production of cement and lime, activities involving asbestos, manufacture of glass and glass fibre, other minerals, ceramics.
- » d) Chemicals: organic, inorganic, fertilizer production, plant health products and biocides, pharmaceutical production, explosives production, manufacturing involving ammonia, storage in bulk.
- » e) Waste management: incineration and co-incineration of waste, landfills, other forms of disposal of waste, recovery of waste, production of fuel from waste, temporary or underground storage of hazardous waste and treatment of waste water.
- » f) Other: paper, pulp and board manufacture, carbon, tar and bitumen, coating activities, printing and textile treatments, dyestuffs, timber, rubber, food industries, intensive farming, carbon capture and storage.

In some cases a scale threshold is set in the Directive 2010/75, and only installations and activities above that threshold must hold a permit to operate. Any such activities/installations which want to make any substantial change must apply for a modification of their permit before the modified installation is operated. Installations can only operate if they comply with the conditions in the permit.

Individual member states must identify the competent authority to which a permit application must be made, the competent authority which issues the

120 See section 1.3, above.

121 Directive 2008/1 (fn 36).

122 European Commission in Summary of Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control)

123 The directive allows competent authorities some flexibility to set less strict emission limit values. Less strict limits can only be set in specific cases where an assessment shows that achieving the emission levels associated with BAT would lead to disproportionately higher costs compared to the environmental benefits due to the geographical location or the local environmental conditions or the technical characteristics of the installation. The competent authority is required to explain and record its justification for granting such derogations.

124 Member States are required to set up a system of environmental inspections and draw up inspection plans accordingly. A site visit must take place at least every 1 to 3 years, using risk-based criteria.

125 Directive 2010/75 Article 2

permit and the competent authority with enforces the permit. Different authorities may undertake monitoring or prosecution. Generally permits are issued and enforced at a national, regional or city level depending on the risk and complexity of the activity or installation. In some member states permits are issued at one level and enforced at another level.

Where an integrated permitting regime is in place integrated permits apply to the whole environmental performance of the installation, emissions to air, water and land, generation of waste, use of raw materials, energy efficiency, noise, prevention of accidents, and restoration of the site upon closure. A permit may apply to one or more installations, parts of installations operated by the same operator on the same site or parts of an installation operated by different operators. The permit will specify the requirements for each operator.¹²⁶

Charges and environmental or other taxes in the context of industrial activities are not decided at EU level, as such issues would require unanimous decisions by the 28 EU Member States which are almost impossible to obtain. Each Member State fixes its own taxes and charges.

12.4.2 Summary of Directive 2010/75

Directive 2010/75 applies only to those which are mentioned in Chapters II to VI of the Directive.¹²⁷ This means that in particular smaller industrial installations which are below the different thresholds mentioned in the Directive, do not fall under the Directive's permit system. It is left to the EU Member States, whether they want to impose such a permit system for small and medium installations or not. But this repartition of competence between the EU and the Member States underlines once more the relevance of the quality objectives which are fixed at EU level: independently of the question, whether a permit system exists in a Member State for small or medium installations, the quality objectives must be complied with.

¹²⁶ Directive 2010/75 Article 4

¹²⁷ Directive 2010/75 (fn 15), Article 2 (1). These are installations listed in Annex I to the Directive (Chapter II), large combustion plants (Chapter III), waste incineration plants and waste co-incineration plants (Chapter IV), installations using organic solvents (Chapter V) and installations which produce titanium dioxide (Chapter VI). It should be noted that industrial installations may come, at the same time, under Chapter II and another Chapter I of the Directive, depending on the size of the installation.

Directive 2010/75 does not apply to nuclear installations. There is a specific legislation on the safety of nuclear installations.¹²⁸ Furthermore, only large combustion plants with a thermal input of 50 MW or more are covered by the Directive. In 2015, the EU adopted a Directive on medium combustion plants with a thermal input between 1 MW and 50 MW¹²⁹. This Directive partly refers to Directive 2010/75, but introduces a permit system of its own.

The industrial installations which are covered by Directive 2010/75 are similar, but not identical with the installations for which an environmental impact assessment is required under Directive 2011/92. For example, an EIA is required for combustion plants with a thermal output of 300 MW or more; other combustions plants require an EIA, when they are likely to have a significant impact on the environment.¹³⁰ In contrast, Directive 2010/75 only covers combustion plants of 50 MW or more.

All installations which come under Directive 2010/75 need a permit. An exception is made for installations which use organic solvents, where Member States may provide for a registration system only.¹³¹ The reason for this is that such installations are often very small and the requirement of a permit requirement in all cases appeared disproportionately burdensome.

When an installation complies with the requirements of Directive 2010/75, it has the right to obtain a permit¹³². However, national or EU law may fix other legal requirements for installations which then will have to be complied with also; examples concern occupational safety, fire protection etc.

Installations may also come under the coverage of Directive 2003/87 on the trade in greenhouse gas emission allowances.¹³³ This Directive entitles installations to buy on the market greenhouse gas

¹²⁸ Directive 2009/71/Euratom establishing a Community framework for the nuclear safety of nuclear installations, OJ 2009, L 172 p.18.

¹²⁹ Directive 2015/2193 on the limitations of emissions of certain pollutants into the air from medium combustion plants, OJ 2015, L 313 p.1.

¹³⁰ See Directive 2011/92 (fn 59), Annex I and Annex II.

¹³¹ Directive 2010/75 (fn 15), Article 5 and Articles 56 ss.

¹³² Directive 2010/75 (fn 15), Article 5 (1).

¹³³ Directive 2003/87 establishing a scheme for greenhouse gas emission allowance trading within the Community, OJ 2003, L 275 p.32.

emission allowances and use them. Such a purchase might entitle an installation to emit more greenhouse gases than would be allowed by the use of the best available techniques (BAT) under Directive 2010/75. In order to avoid such conflicts, Article 9 of Directive 2010/75 provides that where an installation is covered by both Directive 2010/75 and Directive 2003/87, the permit for that installation shall normally not contain limit values for the emission of greenhouse gases.¹³⁴

The application for a permit shall be accompanied by a number of documents.¹³⁵ The application is made public and the public concerned has the possibility to participate in the procedure, by consulting the documents, issuing opinions or objections etc.¹³⁶ Should this procedure of participation of the public concerned not be respected, the national law must provide that members of the public have access “to a court of law or another independent and impartial body established by law to challenge the substantive and procedural legality of decisions” concerning the permitting procedure.¹³⁷

Article 11 establishes some general obligations for the operator of an installation¹³⁸; the public authorities may fix, in the permit, conditions in order to ensure the respect of these general conditions. Furthermore, it is explicitly mentioned that the public authorities shall ensure that the permit conditions guarantee the respect of existing quality objectives.¹³⁹ In view of this provision, a permit under Directive 2010/75 should contain at least measures regarding the application of the best available techniques for the specific installation; measures to protect surface and groundwater; the quantities of discharges of pollutants to waters; measures on the protection of workers and of occupational safety;

accident prevention measures; fire safety measures, measures respecting the applicable building requirements; measures concerning the protection of the soil (disposal of waste); measures on energy efficiency; measures concerning air quality; measures to protect natural sites and fauna and flora species; and measures to ensure an appropriate closure of the site.

12.4.3 Principles

Directive 2010/75 requires that member states shall take the necessary measures to ensure that installations are operated in accordance with the following principles¹⁴⁰:

- » a) all the appropriate preventive measures are taken against pollution
- » b) the best available techniques are applied
- » c) no significant pollution is caused
- » d) the generation of waste is prevented
- » e) where waste is generated, it is, in order of priority: prepared for re-use, recycled, recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment
- » f) energy is used efficiently
- » g) the necessary measures are taken to prevent accidents and limit their consequences
- » h) the necessary measures are taken upon definitive cessation of activities to avoid any risk of pollution and return the site of operation to the satisfactory state

134 Directive 2010/75 (fn 15), Article 9. However, as Directive 2010/75 is based on Article 192 TFEU, Member States may, under Article 193 TFEU, provide that an installation shall respect both Directives at the same time.

135 Directive 2010/75 (fn 15), Article 12.

136 Directive 2010/75 (fn 15), Article 24 and Annex IV.

137 Directive 2010/75 (fn 15), Article 25 which regulates further details of the procedure.

138 These general obligations concern: all measures against pollution; the use of best available techniques; the avoiding of significant pollution; the prevention of waste generation; the appropriate treatment and disposal of waste; the efficient use of energy; measures to prevent accidents and mitigate their consequences; appropriate after-closure measures.

139 Directive 2010/75 (fn 15), Article 14 and Article 18.

12.4.4 Permit conditions

Permit conditions must be set to meet the requirements of the Directive 2010/75: to prevent or, where that is not practicable, to reduce emissions into air, water and land and to prevent the generation of waste, in order to achieve a high level of protection of the environment taken as a whole. Permit conditions include emission limit values based on the Best Available Techniques (BAT). For some activities including large combustion plants and waste incineration the Directive 2010/75 also sets EU wide emission limit values for specified pollutants.

140 Directive 2010/75 Article 11

Permit conditions may be reviewed and where necessary revised at any time. This is most likely to be the case when there is a development in the best available techniques for the sector and /or a revision of the BAT reference document. The operator may request a revision of their permit at any time but is more likely to occur when there is a significant change to the scale or operation of the installation. Such a change is also an opportunity for the competent authority to review and where necessary require a change to the permit conditions to meet BAT standards. The revision of the permit goes through a similar determination and consultation process to the initial permitting of the installation or activity.

As a condition in the permit or through another regulatory requirement, in the event of any incident or accident significantly affecting the environment, the operator is required to inform the competent authority immediately and immediately take the measures necessary to limit the environmental consequences and to prevent further possible incidents or accidents. In the event of a breach of any permit condition, through a condition in the permit or through another regulatory requirement, the operator is required to immediately inform the competent authority and immediately take the measures necessary to ensure that compliance is restored within the shortest possible time.¹⁴¹

12.4.5 Permit applications

A permit application is required to include the following¹⁴²:

- » a) description of the installation and its activities
- » b) raw and auxiliary materials, other substances and the energy used in or generated by the installation
- » c) sources of emissions from the installation
- » d) conditions of the site of the installation, this may need to include a baseline report
- » e) nature and quantities of foreseeable emissions from the installation into each medium as well as identification of significant effects of the emissions on the environment
- » f) proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the installation
- » g) measures for the prevention, preparation for re-use, recycling and recovery of waste generated by the installation
- » h) measures planned to monitor emissions into the environment
- » i) main alternatives to the proposed technology, techniques and measures studied by the applicant in outline

An application for a permit must also include a non-technical summary of the details above.

12.4.6 Permit requirements

The Directive 2010/75 requires that the following conditions are included in the permit to secure the basic obligations of the operator and environmental quality standards¹⁴³:

- » a) emission limit values for polluting substances listed in the Directive and for other polluting substances, which are likely to be emitted from the installation concerned in significant quantities, having regard to their nature and their potential to transfer pollution from one medium to another
- » b) appropriate requirements ensuring protection of the soil and groundwater and measures concerning the monitoring and management of waste generated by the installation
- » c) suitable emission monitoring requirements specifying measurement methodology, frequency and evaluation procedure
- » d) an obligation to supply the competent authority regularly, and at least annually, with information on the results of any emission monitoring required and other required data that enables the competent authority to verify compliance with the permit conditions
- » e) appropriate requirements for the regular maintenance and surveillance of measures taken to prevent emissions to soil and groundwater

¹⁴¹ Directive 2010/75 Article 7

¹⁴² Directive 2010/75 Article 12

¹⁴³ Directive 2010/75 Article 14

- » f) measures relating to conditions other than normal operating conditions such as start-up and shut-down operations, leaks, malfunctions, momentary stoppages and definitive cessation of operations
- » g) provisions on the minimisation of long-distance or transboundary pollution
- » h) conditions for assessing compliance with the emission limit values or a reference to the applicable requirements specified elsewhere

The competent authority may set different permit conditions than those achievable by the use of the best available techniques, see below.

Emission limits are included in the permit which apply at the point the emissions leave the installation. For indirect releases of polluting substances into water, the effect of a water treatment plant may be taken into account when determining the emission limit values of the installation concerned. This is subject to the condition that an equivalent level of protection of the environment as a whole is guaranteed and provided this does not lead to higher levels of pollution in the environment.

The emission limit values and the equivalent parameters and technical measures are based on the best available techniques, without prescribing the use of any technique or specific technology. The emission limit values are set to ensure that, under normal operating conditions, emissions do not exceed the emission levels associated with the best available techniques.

12.4.7 Emission limit values

The Directive 2010/75 requires that emission limit values shall be expressed for the same or shorter periods of time and under the same reference conditions as those emission levels associated with the best available techniques.¹⁴⁴ Different emission limit values may be set in terms of values, periods of time and reference conditions provided the competent authority at least annually, assesses the results of emission monitoring in order to ensure that emissions under normal operating conditions have not exceeded the emission levels associated with the best available techniques.

The competent authority may, in specific cases, set less strict emission limit values where an assessment shows that the achievement of emission levels associated with the best available techniques as described in BAT conclusions would lead to disproportionately higher costs compared to the environmental benefits due to:

- » a) geographical location or the local environmental conditions of the installation concerned
- » b) technical characteristics of the installation concerned

The competent authority is required to document in an annex to the permit conditions, the justification for the conditions imposed. The Directive 2010/75 requires that the emission limit values shall, however, not exceed the emission limit values required to meet environmental quality standards. Where an environmental quality standard requires stricter conditions than those achievable by the use of the best available techniques, additional measures shall be included in the permit, without prejudice to other measures which may be taken to comply with environmental quality standards.

The competent authority is also required to ensure that no significant pollution is caused and that a high level of protection of the environment as a whole is achieved. The competent authority may grant temporary derogations for the testing and use of emerging techniques for a total period of time not exceeding 9 months, provided that after the period specified, either the technique is stopped or the activity achieves at least the emission levels associated with the best available techniques.

12.4.8 Regulatory tools

In the EU a range of regulatory approaches are used to secure compliance with permitting obligations in directives.

- » a) Permits are used for higher risk and/or non-standard activities which require the competent authority to carry out a more rigorous assessment before it can decide whether to grant or refuse a permit. Any activities that need assessment of adequate financial provision, bespoke conditions or involve a consultation process will be authorised under a permit.

Permits may contain a mixture of standard and bespoke conditions. Bespoke permits are specific to an individual installation, activity and location;

Standard rules permits contain a set of fixed rules for common activities. Standard rules permit save time and money for the operator and the competent authority. The operator cannot seek to vary the rules and there is no right of appeal against them

- » b) Registration is used for activities with generally low environmental impact e.g. waste carriers, brokers or dealers. Registrations are for activities where a simple assessment or screening is sufficient for the competent authority to determine whether or not to allow the proposed activity to be carried out. If a registration is required, the operator will need to make an application. Registrations only include standard conditions, which are a set of rules and limits that apply to a particular activity, and will be consulted on before they are made; however, once they have been made they cannot be appealed when used in a registration. If the operator is unable to comply with the standard conditions that apply to the activity then the operator must apply for a permit instead. The operator may need to renew the registration every three years
- » c) Standard conditions are specified conditions and limits that have been consulted on and published. They can apply to a particular regulated activity, or part of a regulated activity. General Binding Rules (GBRs)¹⁴⁵ are a set of mandatory rules that cover specific low risk activities. Provided that the operator of the activity complies with the rules in full, they are authorised and do not need to apply for any other authorization or permit. However, if they exceed any limit or cannot comply with the GBRs, they will need a different type of authorisation. Low risk activities covered by GBRs include some radioactive substances activities, small scale domestic installations e.g. septic tanks or small sewage treatment plant. The expectation is that they will not cause pollution, have planning permission, and comply with rules.
- » d) Notifications are used for low risk activities where the competent authority does not need to decide whether to grant or refuse an authorisation, but does need to know that the activity is being carried out. Notifications may be associated with GBRs that must be complied with.
- » e) Exemptions are applied where an activity does not justify or need a permit for the activity, The

operator must still register the exemption of activity

f) Regulatory position statements are used where the likely environmental impact is negligible and a permit is not justified. They are usually time limited. No action is required by an operator.

12.4.9 Inspections and monitoring

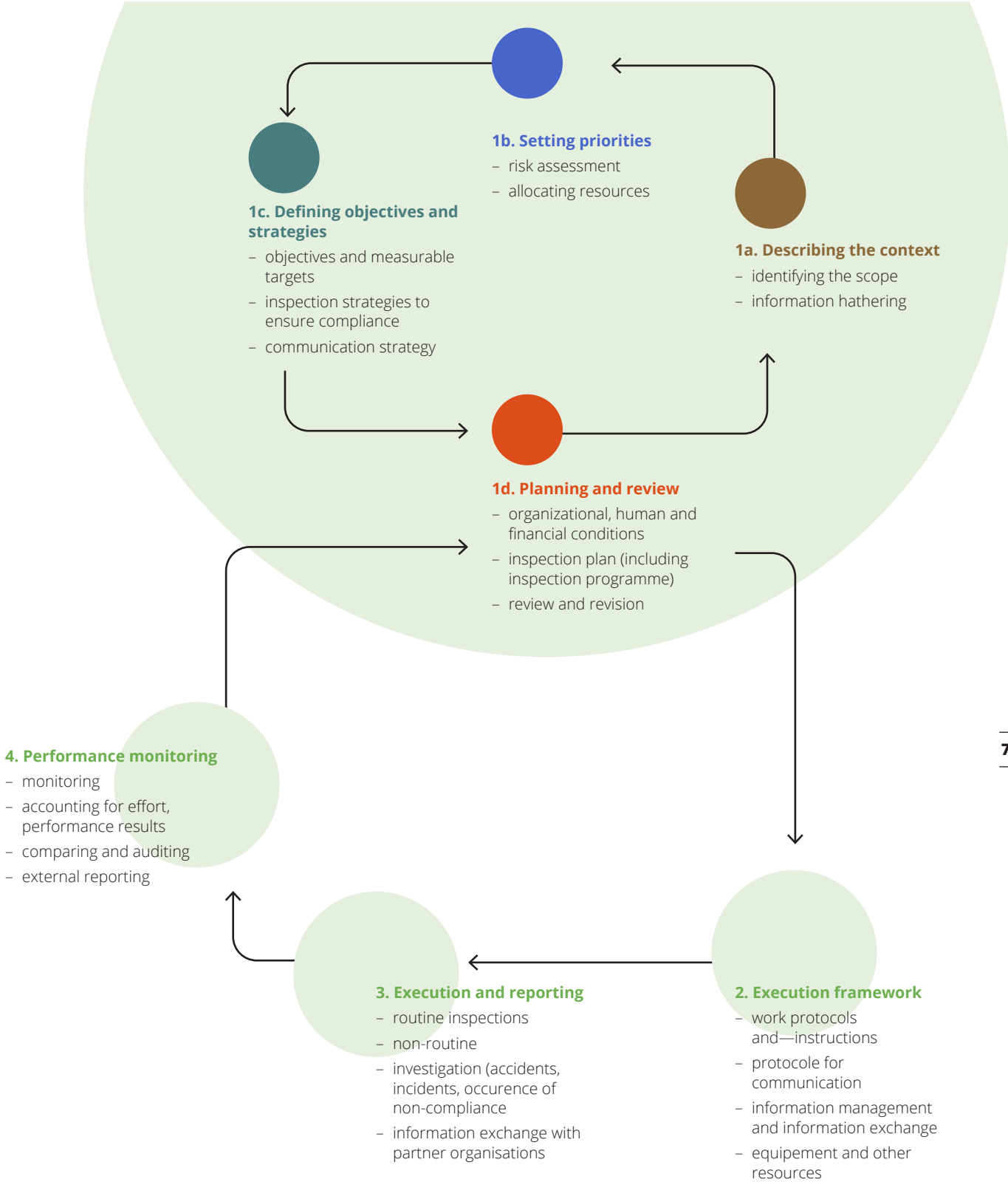
Member states are required to take the measures necessary to ensure that the permit conditions are complied with. Member States are required to set up a system of environmental inspections of installations looking at the full range of relevant environmental effects from the installations concerned. They are also required to ensure that operators afford the competent authorities all necessary assistance to enable those authorities to carry out any site visits, to take samples and to gather any information necessary for the performance of their duties for the purposes of the Directive.¹⁴⁶

Member States are required to shall ensure that all installations are covered by an environmental inspection plan at national, regional or local level and ensure that this plan is regularly reviewed and, where appropriate, updated. Each environmental inspection plan is required to include the following¹⁴⁷:

- » a) general assessment of relevant significant environmental issues
- » b) geographical area covered by the inspection plan
- » c) installations covered by the plan
- » d) procedures for drawing up programmes for routine environmental inspections
- » e) procedures for non-routine environmental inspections
- » f) where necessary, provisions on the cooperation between different inspection authorities

Based on the inspection plans, the competent authority is required to draw up programmes regularly for routine environmental inspections, including the frequency of site visits for different types of installations. The Directive 2010/75 requires that the

IED Inspections - Guidance for the implementation of the IED in planning and execution of inspections (IMPEL)



period between two site visits is based on a systematic appraisal of the environmental risks of the installations concerned and shall not exceed 1 year for installations posing the highest risks and 3 years for installations posing the lowest risks. If an inspection has identified an important case of non-compliance with the permit conditions, an additional site visit is required to be carried out within 6 months of that inspection.

Routine site inspection include:

- » a) Promoting and reinforcing knowledge and understanding of operator
- » b) Evaluating permits and authorisations
- » c) Monitoring of emissions
- » d) Checks of internal reports
- » e) Follow-up on documents
- » f) Verification of self-monitoring
- » g) Checking of the techniques used
- » h) Adequacy of the environment management of the installation

Non-routine site inspection includes dealing with the following:

- » a) Complaints
- » b) Accidents and incidents
- » c) Occurrences of non-compliance
- » d) Need for a new permit
- » e) Need to revise an existing permit
- » f) Investigation and enforcement

Investigation of accident/incident/occurrence of non-compliance

- » a) To clarify the cause and its impact
- » b) Identify responsibilities, liabilities and consequences
- » c) Prepare conclusions for the inspecting authority

- » d) Identify follow up action that has to be taken

Within the competent authority, regulators will share information on the performance of individual industry sectors and issues faced by the sector. This information will be compared with the BAT reference documents and their conclusions. Across the EU member states, staff from the competent authorities increasingly exchange information on industry practices and performance. They also share best practice on inspection and monitoring. Much of this exchange takes place under the auspices of the European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL).¹⁴⁸ It has produced comprehensive guidance on planning and delivering inspections for the IED Directive 2010/75.¹⁴⁹

All forms of inspection benefit from the use of a compliance assessment report or check-list to ensure that all required aspects are covered by the inspection, that there is a formal record of the inspection and follow up action is identified and where necessary agreement is reached with the operator of the installation on any aspect of the inspection or follow up action.¹⁵⁰

The operator is required to monitor releases from the installation and undertake ambient/environmental monitoring as required by the conditions in the permit. The permit will detail the type and frequency of monitoring and what results will be reported to the competent authority. A failure to measure or report as required in the permit is an offense and is likely to result in enforcement action. Intentional miss-reporting of information is taken as

¹⁴⁸ The European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) is an international non-profit association of the environmental authorities of the European Union Member States, acceding and candidate countries of the EU, EEA and EFTA countries. The association is registered in Belgium and its legal seat is in Brussels. Currently, IMPEL has 53 members from 36 countries including all EU Member States, (North) Macedonia, Serbia, Turkey, Iceland, Kosovo, Albania, Switzerland and Norway. The Network's objective is to create the necessary impetus in the European Union to make progress on ensuring a more effective application of environmental legislation. The core of the IMPEL activities concerns awareness raising, capacity building and exchange of information and experiences on implementation, enforcement and international enforcement collaboration as well as promoting and supporting the practicability and enforceability of European environmental legislation.

¹⁴⁹ IMPEL Doing The Right Things (IED) Combined guidance 2017/20, A Step by step guidance for permitting and inspection

¹⁵⁰ Environment Agency England, Consultation on assessing and scoring permit compliance. Proposed amendments to the Compliance Classification Scheme, September 2018

a very serious offense and is likely to lead to prosecution which may result in substantial fines and/or imprisonment.

In the UK the Environment Agency, England has a range of enforcement options.¹⁵¹ As the competent authority in England it can take direct action (i.e. not involve enforcement officers or the courts) and recover costs of work where:

- » a) activity has caused serious pollution
- » b) activity is creating a risk of serious pollution
- » c) deposited waste illegally and not removed it when told to
- » d) caused polluting substances to get into a watercourse or the substances are in a place where they are likely to get into a watercourse
- » The competent authority can take enforcement action to secure the following outcomes
 - » a) stop illegal activity from occurring or continuing
 - » b) put right environmental harm or damage,
 - » c) bring illegal activity under regulatory control and in compliance with the law
 - » d) punish offender and deter future offending by the offender and others

The competent authority can impose the following civil sanctions:

- » a) Fixed monetary penalties
- » b) Variable monetary penalties
- » c) Compliance notices
- » d) Restoration notices
- » e) Stop notices
- » f) Enforcement undertakings
- » g) Enforcement cost recovery notices
- » h) Non-compliance penalty notices

If necessary the competent authority can institute criminal proceedings:

- » a) Fixed penalty notices
- » b) Formal caution, admit offence and accept caution
- » c) Prosecution if there is sufficient evidence and it is in the public interest

The competent authority can obtain an order from the court to undertake the following:

- » a) disqualification of a director
- » b) confiscation of assets
- » c) criminal behaviour order
- » d) forfeiture of equipment used to commit the offence
- » e) disqualification from driving
- » f) compensation order
- » g) vehicle seizure
- » h) remediation order

12.4.10 Risk based approaches

The Directive 2010/75 requires that the systematic appraisal of the environmental risks shall be based on at least the following criteria¹⁵²:

- » a) potential and actual impacts of the installations concerned on human health and the environment taking into account the levels and types of emissions, the sensitivity of the local environment and the risk of accidents;
- » b) record of compliance with permit conditions;
- » c) participation of the operator in the EU eco-management and audit scheme (EMAS)

The type and level of regulation is determined by the risk associated with an installation or activity. Risk is the assessment of the (potential) impact of the activity on environment or human health from non-compliance with regulations or permit conditions. The risk impact criteria include:

151 Environment Agency, England, Enforcement and sanctions policy 2018

152 Directive 2010/75, Article 23

- » a) Quantity/quality of air pollution
- » b) Quantity/quality of water pollution
- » c) Quality/quality of soil and ground water
- » d) Waste production or waste management
- » e) Amount of dangerous substances released or present
- » f) Local nuisance (noise, odour)

The risk impact is multiplied by the operator performance criteria

- » a) Attitude of operator
- » b) Compliance record
- » c) Implementation of an environmental management system e.g. EMAS
- » d) Age of the installation

The operator compliance is assessed in different ways:

- » a) Assessment - desk based check of compliance with permit, e.g. sending in required information
- » b) Inspection – announced and unannounced site visits
- » c) Monitoring – sampling and observation

12.4.11 Public access to information

The United Nations Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, known as the Aarhus Convention, established a number of rights of the public (individuals and their associations) with regard to the environment. Member states which have signed up to the convention have to make arrangements such that that national, regional or local public bodies make environmental information available to the public. The convention provides the following rights:

a) Receive environmental information that is held by public authorities (“access to environmental information”). This can include information on the state of the environment, but also on policies or measures taken, or on the state of human health and safety where this can be affected by the state

of the environment. The public are entitled to receive this information within one month of the request and without having to say why they require it. In addition, public authorities are obliged, under the Convention, to actively disseminate environmental information in their possession

- » b) Participate in environmental decision-making. Public authorities must enable the public affected and environmental non-governmental organisations to comment on, for example, proposals for projects affecting the environment, or plans and programmes relating to the environment. These comments must be taken into due account in decision-making. Information must be provided on the final decisions and the reasons for it (“public participation in environmental decision-making”)
- » c) Review procedures to challenge public decisions that have been made without respecting the two aforementioned rights or environmental law in general (“access to justice”)

The requirements of the Aarhus convention are reflected in the Directive 2010/75 which requires that the public concerned are given early and effective opportunities to participate in the following stages in the determination of a permit¹⁵³:

- » a) granting of a permit for new installations
- » b) granting or updating of a permit for any substantial change or changes to standards or requirements of the use of the best available techniques

Directive 2010/75 specifies a great number of items of information that industrial installations must make available to the Member States and/or to the public, and obligations of the Member States to make information publicly available, as well as to send information to the Commission.

Under Directive 2010/75, the public has a right to participate in the procedure for granting a permit to an industrial installation.¹⁵⁴ Details of the procedure in this regard are laid down in Annex IV to the Directive. It is essential that the application for a permit or the updating of a permit be made available to the public which may be concerned by the operation of

¹⁵³ Directive 2010/75, Article 24

¹⁵⁴ Directive 2010/75, Article 24

the installation.¹⁵⁵ The Member States determine who the public concerned is and how it shall be informed.¹⁵⁶ The public concerned must be given the opportunity to consult the application documents and raise objections and make comments on the application. Such comments and objections must be taken into consideration by the authorizing authority which remains, though, responsible for taking the decision on the application. Member of the public may tackle procedural deficiencies in court.¹⁵⁷

When a decision on granting, reconsideration or updating of a permit is taken, the competent authority is required to make available to the public, including via the Internet, the following information:

- » a) content of the decision, including a copy of the permit and any subsequent updates
- » b) reasons on which the decision is based
- » c) results of the consultations held before the decision was taken and an explanation of how they were taken into account in that decision
- » d) title of the BAT reference documents relevant to the installation or activity concerned
- » e) how the permit conditions, including the emission limit values, have been determined in relation to the best available techniques and emission levels associated with the best available techniques
- » f) where a derogation is granted, the specific reasons for that derogation based on the criteria laid down in that paragraph and the conditions imposed

¹⁵⁵ Directive 2010/75, Article 24, Article 55(1) and Article 65.

¹⁵⁶ Directive 2010/75 (fn 3) Annex IV, no.5 mentions by way of example the people living within a certain radius of the installation to obtain either a mail or be informed via the local newspaper.

¹⁵⁷ Directive 2010/75 (fn 3), Article 25, Article 55 and Article 65.

The competent authority is also required to make available to the public the results of emission monitoring as required under the permit conditions and held by the competent authority.

Member States may refuse a request for environmental information if¹⁵⁸:

- » a. the information requested is not held by or for the public authority to which the request is addressed. Where the information is held by another authority it is required to transfer the request to that authority and inform the applicant
- » b. the request is manifestly unreasonable
- » c. the request is too general
- » d. the request concerns material in the course of completion or unfinished documents or data
- » e. the request concerns internal communications, taking into account the public interest served by disclosure

Where a request is refused on the basis that it concerns material in the course of completion, the public authority is required to state the name of the authority preparing the material and the estimated time needed for completion.

Member States may provide for a request for environmental information to be refused if disclosure of the information would adversely affect:

- » a) the confidentiality of the proceedings of public authorities, where such confidentiality is provided for by law
- » b) international relations, public security or national defence
- » c) the course of justice, the ability of any person to receive a fair trial or the ability of a public authority to conduct an enquiry of a criminal or disciplinary nature
- » d) the confidentiality of commercial or industrial information where such confidentiality is provided for by national or Community law to protect a legitimate economic interest, including the public

¹⁵⁸ Details of the exceptions are spelt out in Directive 2003/4 on public access to environmental information Article 4

interest in maintaining statistical confidentiality and tax secrecy

- » e) intellectual property rights
- » f) the confidentiality of personal data and/or files relating to a natural person where that person has not consented to the disclosure of the information to the public, where such confidentiality is provided for by national or Community law
- » g) the interests or protection of any person who supplied the information requested on a voluntary basis without being under, or capable of being put under, a legal obligation to do so, unless that person has consented to the release of the information concerned
- » h) the protection of the environment to which such information relates, such as the location of rare species

The content of the decision on the application, together with a copy of the permit and some other information must be made available to the public, at least on the internet; this also applies to subsequent updates of the permit.¹⁵⁹ Furthermore, the opinions of the Forum which was set up under Article 13 of Directive 2010/75 must be made available to the public¹⁶⁰, as well as the BAT reference documents and the BAT conclusions¹⁶¹, and inspection reports concerning an installation¹⁶². Directive 2010/75 is silent about the question, whether the emissions which stem from an industrial installation, must be made available to the public. The installation itself is not obliged to publish such data. However, where the public authorities obtain such information - via inspections, reports from the installations or otherwise - they are obliged, on request by members of the public, to disclose this information, as emissions into the environment cannot be kept confidential.¹⁶³

Member States also may decide that other information is made available to the public.

12.4.12 Verification and standard setting

The competent authority will assess the application against the general principles above¹⁶⁴. In particular the requirement to use the best available techniques (BAT) is assessed against the reference documents¹⁶⁵. There will also be an assessment of the impact of the application against the ambient environment, sensitive sites and environments, species and habitats.

Operator competence will be assessed to determine if the operator will be able to meet the requirements in the permit. The operator is responsible for the accuracy and quality of the information in the permit application. Where practicable the information supplied by the operator will be verified by the competent authority before issuing a permit.

The competent authority will reconcile BAT standards, emission standards and environmental quality standards in determining permit conditions in order to ensure that the environment is protected. The competent authority will also ensure that the permit delivers the requirements of different regulations. The competent authority will determine the life of the permit and set a timetable for its review and the revision of conditions.

12.4.13 Regulator competence

The competent authority will need to specify the education, skills, training, professional standard required of its staff to undertake their duties. The minimum is normally a university degree with post-graduate specialist training. Often staff are recruited from industry as experience of working at a management level in a regulated industry is especially valuable in understanding the pressures and issues faced by the operators of regulated installations. Increasingly staff from competent authorities are gaining professional qualifications through membership of national and international professional bodies which demonstrates the achievement of wider skills and competencies.

¹⁵⁹ Directive 2010/75 (fn 3), Article 24(2)

¹⁶⁰ Directive 2010/75 (fn 3), Article 13(4).

¹⁶¹ Directive 2010/75 (fn 3), Article 13(6).

¹⁶² Directive 2010/75 (fn 3) Article 23(5)

¹⁶³ Directive 2003/4 on public access to environmental information, OJ2003, L41 p.26, Article 4(2).

¹⁶⁴ Directive 2010, Article 11

¹⁶⁵ Directive 2010/75, Article 13

The IMPEL guidance identifies issues which could be included in a training programme.¹⁶⁶ A training needs assessment should be made of the requirements of the officers undertaking inspections. The assessment will show the gap(s) between the required and existing skills and qualifications for job. Based on this assessment a training programme could include the following aspects:

Knowledge of:

- » a) work and production process within governmental organisations
- » b) procedures, methods and systems in the field of environmental inspections
- » c) Industrial sectors
- » d) the applicable legislation
- » e) the procedures in court
- » f) environmental management systems

Specific skills:

- » a) basic inspection skills
- » b) sampling of emissions, soil and waste
- » c) assessment of administrations and data management (e.g. maintenance, monitoring, waste management)
- » d) basic information technology
- » e) social skills, especially for dealing with difficult stakeholders
- » f) communication skills to communicate with industry, present enforcement action to the public and provide evidence in a court of law
- » g) management skills to ensure a high quality and effective inspectorate, including planning skills

¹⁶⁶ IMPEL Doing The Right Things (IED) Combined guidance 2017/20 A Step by step guidance for permitting and inspection. It includes a series of fact sheets including one on a training programme from which this information is taken. IMPEL have projects underway on “the implementation of the Industrial Emissions Directive (IED)” and the “Doing the right things in permitting and inspections” with the intention of producing an Inter-active handbook for regulators responsible for Industrial Emissions Directive implementation.

The IMPEL guidance suggests that the inspecting authority should look into the possibility for joint or mutual training with staff from other relevant authorities.

12.4.14 Implementation progress

Directive 2010/75 is based on Article 192(1) TFEU. According to Article 192(4) TFEU, Member States thus have to implement the provisions of the Directive; this implies:

- » a) the transposition of the Directive’s provisions into their national legal order
- » b) the application in practice of the Directive’s provisions

The European Commission is required to ensure and oversee the application of the Directive by the Member States.¹⁶⁷ The European Commission published, in 2017, a report on the implementation of Directive 2010/75 in the Member States. It reported that all Member States had transposed the requirements of the Directive into their national legal order. Where “ambiguities or erroneous transpositions” had been identified, the Commission entered into a dialogue with the Member State concerned; 21 such “dialogues” had been launched by the end of 2017. In no case has any Member State been brought before the EU Court of Justice, because the Directive had not been correctly transposed.¹⁶⁸ The transposing legislation of the 28 Member States is not available.

The main new element introduced by Directive 2010/75 is the legally binding character of BAT conclusions established under Directive 2010/75.¹⁶⁹ The Commission reported that by the end of 2017, 31 BREF-documents and two reference documents had been elaborated for the different categories of industrial installations.¹⁷⁰ By end of August 2018, the following “Commission Implementing Decisions on Best Available Techniques Conclusions had been published:¹⁷¹

¹⁶⁷ Article 17 TEU.

¹⁶⁸ See above, fn. xxx

¹⁶⁹ See on the elaboration of the BAT reference documents and the BAT conclusions the detailed description in part 2 of this study.

¹⁷⁰ Commission, COM (2017), 727 (fn 100), p.5

¹⁷¹ See, however, also Directive 2010/75, Article 13(7) which provides that BAT conclusions which had been adopted prior to the application of Directive 2010/75, are under certain conditions deemed to be BAT-conclusions.

- » Emissions for the manufacture of glass¹⁷²
- » Emissions for iron and steel production¹⁷³
- » Tanning of hides and skins¹⁷⁴
- » Cement, lime and magnesium oxide¹⁷⁵
- » Production of chlor-alkali¹⁷⁶
- » Production of pulp, paper and board¹⁷⁷
- » Emissions for the refining of mineral oil and gas¹⁷⁸
- » Production of wood-based panels¹⁷⁹
- » Common waste-water and waste gas treatment management system in the chemical sector¹⁸⁰
- » Non-ferrous metals¹⁸¹
- » Intensive rearing of poultry and pigs¹⁸²
- » Large combustion plants¹⁸³
- » Production of large-volume organic chemicals¹⁸⁴
- » Waste treatment¹⁸⁵

Final data on their application by the industrial installations and in particular on the question, whether the mandatory use of BAT-Conclusions has led to lower emissions into the environment, are not yet available, but the Commission stated: "While it is too early to see the practical results of the change to

the IED system, progress is encouraging; Trends in industrial emissions appear promising."¹⁸⁶ Member States shall, as of 2017, annually report plant-by-plant data to the Commission¹⁸⁷ which will allow a better assessment. A full evaluation of the effectiveness of Directive 2010/75 is envisaged by 2020.

The European Environment Agency which has the task to collect, process and disseminate information on the environment,¹⁸⁸ has not yet published data from installations that come under Directive 2010/75.

EU directives are addressed to Member States and ask them to reach a specific result which is laid down in the directive. However, Member States have a large amount of discretion on how to proceed. For example, in the case of Directive 2010/75, Member States may take the conclusions of the BAT reference documents¹⁸⁹ elaborated under that Directive and formally adopted by the Commission, and base their permits for the individual installation on these conclusions without further legislating at national level. In contrast, they may also incorporate the BAT document conclusions into their national legislation and then base their permits for individual installations on such national legislation. This is the way, for example, in which Germany

172 Decision 2012/134, OJ 2012, L 70 p.1.

173 Decision 2012/135, OJ 2012, L 70 p.63.

174 Decision 2013/84, OJ 2013, L 45 p.13.

175 Decision 2013/163, OJ 2013, L 100 p.1.

176 Decision 2013/732, OJ 2013, L 332 p.34.

177 Decision 2014/687, OJ 2014, L 284 p.76.

178 Decision 2014/738, OJ 2014, L 307 p.38.

179 Decision 2015/2119, OJ 2015, L 306 p.31.

180 Decision 2016/902, OJ 2016, L 152 p.23

181 Decision 2016/1032, OJ 2016, L 174 p.32.

182 Decision 2017/302, OJ 2017, L 43 p.231.

183 Decision 2017/1442, OJ 2017, L 210 p.1.

184 Decision 2017/2117, OJ 2017, L 323 p.1.

185 Decision 2018/1147, OJ 2018, L 208 p.38.

186 Commission, COM (2017) 727 (fn 100) p.12.

187 Commission Implementing Decision 2018/1135 establishing the type, format and frequency of information to be made available by the Member States for the purpose of reporting on the implementation of Directive 2010/75, OJ 2018, L 205, p.40. This Decision replaced the earlier Decision 2012/795, OJ 2012, L 349 p.97, on the same issue.

188 See Regulation 401/2009 establishing the European Environment Agency, OJ 2009, L 126 p.13.

189 Directive 2010/75, Article 2 no.11: "BAT reference document means a document, resulting from the exchange of information organized pursuant to Article 13, drawn up for defined activities, and describing, in particular, applied techniques, present emission and consumption levels, techniques considered for the determination of best available techniques as well as BAT conclusions and any emerging techniques, giving special consideration to the criteria listed in Annex III".

Directive 2010/75 (fn 15) Article 2 no.12: "BAT conclusions means a document containing the part of a BAT reference document laying down the conclusions on best available techniques, their description, information to assess their applicability, the emission levels associated with the best available techniques, associated monitoring, associated consumption levels and, where appropriate, relevant site remediation measures".

implemented Directive 2010/75, based on Article 6 of that Directive.¹⁹⁰

12.5 ENVIRONMENTAL IMPACT ASSESSMENT

EU law imposed on the Member States the obligation to make an environmental impact assessment (EIA), before granting a permit for building and operating some new or significantly enlarge or modify existing industrial installations or other projects.¹⁹¹ The industrial installations which are covered by Directive 2011/92 are listed in Annex I and Annex II to the Directive.¹⁹² The procedure for making an EIA is laid down in detail in the Directive. A very essential part of that procedure is the participation of the public concerned in the procedure¹⁹³: the public concerned has a right to have access to the relevant documents including:

- » a) the description of the project
- » b) the description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects on the environment
- » c) the data required to identify and assess the main effects of the project on the environment
- » d) the main alternatives to the project that were studied by the operator
- » e) a non-technical summary of the documents

Sufficient time must be given to the public concerned to examine these documents. The public concerned may make comments, raise objections, submit studies etc. with regard to the project. The public authorities shall weigh all comments and objections and shall then take a decision on the granting or not of the permit, giving the reasons for their choice.

Public authorities determine themselves, who is the “public concerned” by a project. Obviously, a road of 100 kilometers length has different people “concerned” compared with an industrial installation, where normally all persons are concerned who live within a certain distance of the planned installation. The public concerned may challenge a decision not to undertake an EIA before the court and they also have such a right when the EIA is defective.¹⁹⁴

An environment impact assessment also has to be made according to Directive 92/43.¹⁹⁵ This Directive, together with Directive 2009/147 on the conservation of wild birds,¹⁹⁶ established an EU-wide network of protected habitats which includes at present some 26.000 sites (“Natura 2000”).¹⁹⁷

The Directive requires that Member States take appropriate conservation measures to preserve the integrity of the sites and to maintain a good conservation status of the habitats and the species of fauna and flora which live in them. Article 6(3) of Directive 92/43 specifies that any plan or project which may have a significant impact on the site, must undergo an appropriate impact assessment and may only be authorized, subject to some very strict exceptions laid down in Article 6(4), when no such adverse

190 Directive 2010/75 (fn 15), Article 6: “Without prejudice

to the obligation to hold a permit, Member States may include requirements for certain categories of installations, combustion plants, waste incineration plants or waste co-incineration plants in general binding rules. Where such general binding rules are adopted, the permit may simply include a reference to such rules”.

191 Directive 2011/92. This Directive replaced an earlier version of 1985. Directive 85/337, OJ1985, L 175 p.40. As it turned out that more and more local, provincial, regional or national plans established the basis for the future realization of projects, Directive 2001/42 on the assessment of the effects of certain plans and programmes on the environment, OJ 2001, L 197 p.30, extended the obligation to make an EIA to certain plans and programmes.

192 Projects that are listed in Annex I always have to undergo an environmental impact assessment. Projects listed in Annex II have to undergo an environmental impact assessment, when significant effects on the environment are likely.

193 Directive 2011/92 (fn 59), Article 6. See also the details of the procedure in Articles 6 to 10.

194 Court of Justice, case C-570/13 Gruber; ECLI:EU:C:2015:231.

195 Directive 92/43 on the conservation of natural habitats and of wild fauna and flora, OJ1992, L 206 p.7.

196 Directive 2009/147 on the conservation of wild birds, OJ 2010, L20, p.7.

197 See for the procedure of including a site into this network, Directive 92/43 (fn xxx), Articles 4 to 8.

impact is likely.¹⁹⁸ The provision does not require that the assessment be made in conformity with the requirements of Directive 2011/92. However, most Member States follow the EIA provisions, because it would not be very rational to have different EIA procedures.

While under Directive 2011/92, a project may also obtain a permit, when it has significant adverse effects on the environment. A project that affects a protected habitat under Directive 92/43 has much greater difficulties in obtaining a permit, though much depends on the actual exercise of the administrative discretion of and the enforcement by public authorities in the different EU Member States.

12.6 MONITORING COMPLIANCE WITH DIRECTIVES

As regards the Member States' obligations to transmit information to the Commission, the Commission published an implementing Decision to specify the details of this obligation.¹⁹⁹ Directive 2010/75 allows Member States under certain conditions to derogate from some of its provisions. In such cases, they have to inform the Commission.²⁰⁰ Also, Member States are required to send "representative" emission data to the Commission, as well as the emission limit values and the application of the best available techniques.²⁰¹ For large combustion plants, the Member States are required to establish an inventory of all plants and their emissions and transmit to the Commission, at its request, annual plant-by-plant emission data, and every three years

a summary of the inventory; the Commission shall make available to the public summaries of comparisons of the emission data.²⁰² It is remarkable that there is no obligation for the Commission to issue regular reports on the application of Directive 2010/75.²⁰³

Member States are required to regularly inspect the installations which come under the Directive and establish inspection plans. However, these plans do not have to be sent to the Commission and need not either be made publicly available; only the reports on inspections that were undertaken have to be made available.²⁰⁴

Overall, it is clear from these different provisions that the monitoring of the application is almost entirely left in the hands of the Member States. This is confirmed by the monitoring of the application of the predecessor of Directive 2010/75, Directive 2008/1. There were only very few cases brought by the Commission to the EU Court of justice for non-compliance with the requirements of this Directive. And these cases concerned an incorrect transposition of the Directive into national law rather than a bad application in specific cases.²⁰⁵

This means in practical terms that the success or lack of success of the approach chosen by Directive 2010/75 depends to a very large extent on the practical application of the Directive. When Member States have the political will to ensure the application of the best available technique, the Directive offers a vast range of instruments to progressively enforce the application and continuous update of available techniques in the different installations. However, where such a political will is absent - for different reasons, for example the effort, to protect the economic interests of an installation, administrative inertia, the negligence to protect the environment, the fear of losing competitiveness with regard to other installations or installations in other Member States, the will to remain uninfluenced by EU developments, local, regional or national corruption - the Directive offers sufficient loopholes to the

198 Directive 92/43 (fn 68), Article 6(3): "Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of its implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public".

199 Commission Implementing Decision 2018/1135 establishing the type, format and frequency of information to be made available by the member States for the purpose of reporting on the implementation of Directive 2010/75, OJ 2018, L 205 p.10.

200 Directive 2010/75 (fn 3), Article 15(4) (less stringent emission limit values), Article 32 (transitional national plans), Article 33 (limited lifetime derogations), Article 34 (small isolated systems), Article 35 (district heating),

201 Directive 2010/75 (fn 3), Article 72(1).

202 Directive 2010/75 (fn 3), Article 72(2).

203 The Commission report COM (2017) 727 is thus a "voluntary" report.

204 Directive 2010/75 (fn 3), Article 23.

205 See in particular Court of Justice, case C-607/10, Commission v. Sweden, ECLI:EU:C:2012:192; case C-351/11, Commission v. Austria, ECLI:EU:C:2012:315; case C-158/12 Commission v. Ireland, ECLI:EU:C:2013:234.

Member States of letting some or all installations escape from the requirements of the Directive.

This begins with the BAT reference documents. In the technical working groups which elaborate these BAT reference documents, industry plays a very important, if not dominant role and it is more than likely that it tries to ensure that the conditions for best techniques, emission limit values and other requirements are not too strict. And the representatives of Member States have almost no interest to establish the BAT reference documents in such a stringency that perhaps the own national industry has difficulties to comply or might otherwise be unable to remain competitive. The representatives of environmental organizations - who are not represented in the same number as industry representatives, and also frequently lack the necessary technical and scientific know-how - are hardly able to ensure a high level of environmental protection to be laid down in the BAT references documents.

This procedure continues with the adoption of BAT conclusions. The Member States which will have to decide on a Commission proposal are probably not too inclined to agree conclusions which might bring a competitive disadvantage to their own national industries. Therefore, it is more likely that the BAT conclusions will reflect the lowest or a low common denominator of environmental protection rather than a high level of protection. And once the BAT conclusions have been adopted at EU level, Member States and their competent authorities decide, whether they will, within the range of values of the BAT conclusions, apply strict values or values which figure at the lower end of the range.

As regards the monitoring of the application of the Directive, the competent authorities of Member States also have a large discretion as to protect their industrial installations. They may make use of all possible derogation possibilities, not strictly monitor the emission limit values, not make frequent and strict inspections or not control the application of the best available techniques. It is certain that such monitoring is, in the long term, detrimental to the interests of the own national industry which might lose competitively with regard to industries from other Member States or from third countries, which try to develop new, less polluting techniques and force in this way technical innovation.

Furthermore, it is also necessary to realize that the first attempt to reduce within the EU the emissions into the environment from industrial installations dates from 1984 in the form of Directive 84/360.

This means that almost 35 years passed without the EU collecting, collating and sharing strong, reliable and comparable data on the success of the BAT-approach.²⁰⁶

Directive 2010/75 applies to installations which normally have a certain size. The EU Member States decide what kind of emission limitation they apply to small installations to which the Directive does not apply, whether they introduce a permit and inspection system, whether they impose the emission limit values of the BAT conclusions for larger installations etc. In this regard, the Member States once more have a very large margin of discretion to take or not to take effective measures

Therefore, it can only be repeated that the system developed under the BAT approach and most recently on the basis of Directive 2010/75 is likely to offer good results, if all public authorities are concerned to really put the system fully into application, enforce the different provisions of Directive 2010/75 and improve the protection of the environment. Where this political will lacks, the Directive allows sufficient possibilities to avoid its full application and efficiently protect the environment.

12.7 NATIONAL, REGIONAL AND LOCAL ENVIRONMENTAL QUALITY IMPROVEMENTS

Directive 2010/75 is a Directive which allows Member States to maintain or introduce more stringent protection requirements for the environment at national level. This principle, laid down in Article 193 TFEU, is repeated by Article 14 of the Directive.²⁰⁷

Directive 2010/75 itself endeavours to ensure that the best available technique is not fixed once and for all in a BAT reference document and BAT conclusions, but that the technical evolution is taken into

²⁰⁶ here is also Regulation 166/2006 concerning the establishment of a European Pollution Release and Transfer Register, OJ2006, L 33 p.1. However, data under this Register are made public only once every three years. And the main problem with this regulation is that its monitoring is not required.

²⁰⁷ Directive 2010/75 (fn 3), Article 14(4): .. the competent authorities may set stricter permit conditions than those achievable by the use of best available techniques as described in the BAT conclusions. Member States may establish rules under which the competent authorities may set such stricter rules." See also Recital 10 to Directive 2010/75.

consideration. Several provisions of the Directive clarify this objective:

- » a. The exchange of information which is organized according to Article 13 of Directive 2010/75, explicitly includes “emerging techniques”.²⁰⁸
- » b. Member States are required to ensure that their competent authorities are informed of new developments with regard to best available techniques. They may then introduce this information into the information exchange under Article 13 of the Directive with a view of a possible updating of the BAT reference document.²⁰⁹ As an orientation, the Commission was asked to try to ensure the updating of BAT reference documents every eight years.²¹⁰
- » c. All permit conditions are required to be periodically reconsidered with a view of updating them. Updated BAT reference documents must be taken into consideration.²¹¹
- » d. Member States are required to promote the use of emerging techniques.²¹²
- » e. These provisions apply to all environmental media (air, soil and water). No specific provisions are laid down for individual media.

As regards the work programme and priorities, the Commission laid down, in conformity with Article 13 of Directive 2010/75, detailed guidance rules on the drawing up and reviewing of BAT reference documents.²¹³ The decision to elaborate a BAT reference document or to update an existing BAT reference document is taken by the Commission itself, which also may suggest the elaboration of several BAT reference documents at the same time.²¹⁴ Furthermore, any Member of the Forum may suggest the inclusion of new aspects to be considered by working parties which draft the BAT reference document.

208 Directive 2010/75 (fn 3), Article 13(2) (c).

209 Directive 2010/75 (fn 3), Article 19.

210 Directive 2010/75 (fn 3), Recital 13.

211 Directive 2010/75 (fn 3) Article 21.

212 Directive 2010/75 (fn 3), Article 27(1): “Member States shall, where appropriate, encourage the development and application of emerging techniques, in particular for those emerging techniques identified in BAT reference documents.”

213 Commission Implementing Decision 2017/119 laying down rules concerning guidance on the collection of data and on the drawing up of BAT reference documents and on their quality assurance referred to in Directive 2010/75, OJ 2017, L 63 p.1. This Decision describes in detail the procedure to elaborate a BAT reference document.

214 Directive 2010/75 (fn3), Article 13 (3)(b).

China's Regulatory Framework on Pollutant Discharge Permits

**An overview on the formulation
and implementation of
Pollutant Discharge Permits
in China and the sharing of EU
experience of permitting**

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