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ARTICLE

Prospects for Climate Change Litigation in China

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Abstract
While legal scholarship seeks mainly to assess the impact of climate change litigation (CCL) on the regulatory state and on climate change policy in common law countries, the potential influence of government climate policy on the judicial practices of jurisdictions with different legal traditions attracts much less attention. This article fills the gaps by exploring how courts in China, an authoritarian country with a civil law tradition, react to government climate policies and how this judicial response might affect relevant legal rules and eventually contribute to climate regulation. An empirical analysis of 177 Chinese judicial cases reveals that CCL in China consists mostly of contract-based civil actions steered by the government's low-carbon policies. Moreover, although the prospects of CCL against public authorities in China remain very bleak, there is scope for the emergence of tort-based CCL, backed by government policies. In this respect, recent tort-based public interest litigation on air pollution in China may serve as a substitute or, more promisingly, a gateway to the emergence of a tort-based branch of Chinese CCL.

Keywords: Climate change litigation, China, Public interest litigation, Air pollution, Climate law

1. INTRODUCTION

Climate change poses an unprecedented challenge for humankind. To address climate-related threats, climate legislation and government regulatory policies have proliferated over the past two decades.[1] Moreover, as a response to existing global

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1 As the report of the Grantham Research Institute and the Sabin Center shows, there are now over 1,200 climate change-related laws and policies in place worldwide: see M. Nachmany et al., *Global Trends*

regulatory gaps in climate change mitigation and adaptation, a cascade of climate change litigation (CCL)[2] has developed and become a transnational judicial phenomenon.[3] To date, the Sabin Center's Climate Change Litigation Database (CCL database) has already recorded 1,248 cases worldwide, which include 973 in the United States (US).[4] Accordingly, literature on CCL has proliferated during the past decade. The earliest studies concerned major US Supreme Court decisions, including among others the well-known cases of *Massachusetts* v. *Environmental Protection Agency* (EPA) in 2007,[5] *American Electric Power* v. *Connecticut* in 2011,[6] and *Utility Air Regulatory Group* v. *EPA* in 2014.[7] As Osofsky and Peel noted,[8] following this first wave of scholarship on individual cases, the second wave created typologies of CCL. As a step forward, the third wave examined the role of litigation in climate change regulation, creating a discourse of litigation as a 'regulatory pathway', to which this study is closely related.

Prominent among contributors to this third wave of legal scholarship on the regulatory role of litigation are scholars from the US and Australia, the two countries with the most extensive CCL practices. Markell and Ruhl, having conducted an empirical analysis of 201 US cases concerning climate change, found that courts could either intervene directly, as in *Massachusetts* v. *EPA*, or perform a 'prods and pleas' function.[9] Peel and Osofsky refined this framing by exploring the diversity of direct and indirect regulatory impacts of CCL under a 'pluralist/polycentric approach'.[10] They concluded that CCL plays a positive role in the multi-dimensional climate change regulatory system by fostering action to reduce greenhouse gas (GHG) emissions and minimizing associated climate change impacts, whether directly through classic statutory interpretation, the 'prods and pleas' function of judicial decisions or, more recently,

in Climate Change Legislation and Litigation, May 2017, p. 8, available at: http://archive.ipu.org/pdf/publications/global.pdf.

2 The term 'climate change litigation' (CCL) covers several different types of action. Markell and Ruhl propose a widely accepted definition of CCL: 'Any piece of federal, state, tribal, or local administrative or judicial litigation in which the tribunal decisions directly and expressly raise an issue of fact or law regarding the substance or policy of climate change causes and impacts': D. Markell & J.B. Ruhl, 'An Empirical Assessment of Climate Change in the Courts: A New Jurisprudence or Business as Usual?' (2012) 64(1) *Florida Law Review*, pp. 15–85, at 15, 26. Peel and Osofsky provide one of the most recent and comprehensive overviews of this body of cases: J. Peel & H.M. Osofsky, *Climate Change Litigation: Regulatory Pathways to Cleaner Energy* (Cambridge University Press, 2015), p. 8.

3 H.M. Osofsky, 'Is Climate Change "International"? Litigation's Diagonal Regulatory Role' (2009) 49(3) *Virginia Journal of International Law*, pp. 587–649, at 631–4; S. Bogojević, 'EU Climate Change Litigation, the Role of the European Courts and the "Importance of Legal Culture"' (2013) 35(3) *Law & Policy*, pp. 184–207, at 184.

4 Sabin Center for Climate Change Law, Climate Change Litigation Databases, 2018, available at: http://climatecasechart.com, p. 13 (CCL database).

5 *Massachusetts* v. *EPA*, 549 U.S. 497 (2007).

6 *American Electric Power Co.* v. *Connecticut*, 564 U.S. (2011) (No. 10-174).

7 *Utility Air Regulatory Group* v. *EPA*, 573 U.S. (2014) (No. 12-1146).

8 Peel & Osofsky, n. 2 above, p. 8.

9 Markell & Ruhl, n. 2 above, p. 15.

10 J. Peel & H.M. Osofsky, 'Climate Change Litigation's Regulatory Pathways: A Comparative Analysis of the United States and Australia' (2013) 35(3) *Law & Policy*, pp. 150–83; see also J. Peel & H.M. Osofsky, 'Sue to Adapt?' (2015) 99(6) *Minnesota Law Review*, pp. 2177–250.

through a strategy based on human rights.[11] While the majority of cases focus on government regulatory behaviour, there are also cases that target corporate emitters for climate-related damage or for injunctive relief based on tort law (using, for example, the public nuisance doctrine), although no climate nuisance action has been successful to date.[12] Benjamin and Kysar have explored the 'prods and pleas' function of CCL in the context of climate nuisance litigation and suggested that 'although climate change plaintiffs still face long odds on the actual merits of their claims, judges would sell short their institutional role if they dismissed such claims as categorically beyond the proper domain of the courts and the common law'.[13]

Analyses of regulatory pathways so far have been primarily interested in courts as alternative suppliers of climate change regulation, stepping up where government regulation falters. There has been less interest in courts as collaborators in the regulatory process, engaging with and interpreting government climate change policies and, in this guise, contributing to the maturing of climate change regulation. Current CCL studies also largely refrain from considering how the experience of common law countries (especially the US and Australia) compares with that of other countries with different legal traditions. What pattern might CCL follow in civil law countries, especially in regimes where the separation of powers is not guaranteed and courts are 'little more than a loyal subordinate of the party-state that carefully carried out assigned tasks'?[14] A study of CCL experience in China will help to complete the global picture of CCL practices. It may also help to highlight the extent to which CCL is a transnational judicial phenomenon and the importance of recent judicial innovation in the Global South, thus challenging the understanding of the standard account of CCL as shaped mainly by cases in the Global North.[15]

This article aims to fill the gaps and to enrich the knowledge of the 'regulatory pathway' paradigm by contextualizing it within the Chinese legal regime. Our study demonstrates that, instead of the court-driven regulatory policy-making process typical of the US and Australia, China apparently adopts a government-led response to climate

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11 J. Peel & H.M. Osofsky, 'A Rights Turn in Climate Change Litigation?' (2018) 7(1) *Transnational Environmental Law*, pp. 37–67. See, e.g., Inuit Circumpolar Council Canada, Inuit Petition Inter-American Commission on Human Rights to Oppose Climate Change Caused by the United States of America, 7 Dec. 2005, available at: https://www.ciel.org/Publications/ICC_Petition_7Dec05.pdf. See also *Stichting Urgenda* v. *Government of the Netherlands (Ministry of Infrastructure and the Environment)*, Case No. C/09/456689/HA ZA 13-1396, ECLI:NL:RBDHA:2015:7145, 24 June 2015, and Rechtbank Den Haag, Case No. C/09/456689/HA ZA 13-1396, ECLI:NL:GHDHA:2018:2610, 9 Oct. 2018 (*Urgenda*). See also *Ashgar Leghari* v. *Federation of Pakistan*, W.P. No. 25501/2015, Lahore High Court Green Bench, Orders of 4 and 14 Sept. 2015, available at: https://elaw.org/pk_Leghari (*Leghari*).

12 See United Nations Environment Program (UNEP), *The Status of Climate Change Litigation: A Global Review* (UNEP, 2017), p. 34, available at: http://columbiaclimatelaw.com/files/2017/05/Burger-Gundlach-2017-05-UN-Envt-CC-Litigation.pdf.

13 E. Benjamin & D.A. Kysar, 'Prods and Pleas: Limited Government in an Era of Unlimited Harm' (2011) 121(2) *Yale Law Journal*, pp. 350–424, at 352, 355.

14 贺卫方, 中国司法管理制度的两个问题 [W. He, 'Two Problems of the Chinese Judicial System'] (1997) 6 *中国社会科学* [*Social Science in China*], pp. 117–30, at 121, 122. See also X. He, 'Why Did They Not Take on the Disputes? Law, Power and Politics in the Decision-making of Chinese Courts' (2007) 3(3) *International Journal of Law in Context*, pp. 203–25.

15 See CCL Database, n. 4 above, and UNEP, n. 12 above, p. 35.

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change, leaving courts with a secondary supporting role. In doing so, we focus on the following questions:

- Does CCL exist in China?
- How does CCL in the Chinese context differ, if at all, from global understandings of CCL?
- What is the most likely channel for future CCL in China?

To answer these questions, the following sections will first explore existing Chinese case law, and then examine the possible future pathways for CCL in the legal context of China. To this end, the article is structured as follows. Section 2 provides an empirical analysis of 177 cases selected according to the description of CCL adopted by the Chinese judiciary. The analysis shows that Chinese CCL consists mainly of civil actions related to contract disputes between energy enterprises and low-carbon industries. The outcome of these judicial decisions reflects the influence of Chinese government low-carbon policies on the judiciary. Section 3 examines the differences between Chinese and mainstream conceptualizations of CCL. Traditionally, CCL involves mainly statutory or rights-based administrative public interest litigation (PIL), which usually holds the government accountable for its failure to perform climate-related duties. By contrast, CCL in China takes the form of contract-based civil actions in response to the government low-carbon policies.

The article then shows (in Section 4) that the institutional arrangements of the overwhelmingly powerful administrative authorities and relatively weak judicial competence have jointly defined the Chinese 'government-led regulatory pathway' of CCL. Instead of the familiar CCL profile of a case in which a government or government agency is held liable for its acts of nonfeasance or misfeasance in relation to its climate duty, CCL in China is more likely to be predominantly tort-based and instigated on the basis of government climate policies that target carbon emitters. In the final section, the article examines the emerging phenomenon of tort-based PIL on air pollution in China. In these cases, some important legal hurdles faced by both air pollution claimants and climate change petitioners have been successfully overcome, showing a growing receptivity on the part of the Chinese judiciary to the framing of tort-based and large-scale environmental PIL. These cases may offer a channel to vindicate, directly or indirectly, climate-related public interests vis-à-vis emitters of GHGs.

2. CCL IN CHINESE COURTS: AN EMPIRICAL ANALYSIS

As a result of China's rapid economic growth and reliance on coal, it overtook the US to become the world's largest GHG emitter in 2006. In 2016, China committed to cut its GHG emissions, and in recent years it has made tremendous progress in reducing its emissions. The impetus for change comes chiefly from the insistence of central government and the top-down enforcement of climate change-related legislation and

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policies.[16] The role of Chinese civil society and the Chinese judiciary are seemingly insignificant. In the global CCL databases such as that run by the Sabin Center, not a single case from China has ever been recorded.

Is there any climate change-related litigation in China? In 2016, the Chinese Supreme People's Court (SPC) issued an Opinion on the enhancement of judicial functions in promoting the construction of ecological civilization and green development (the 2016 Opinion)[17] and a report on the environment and resources related to Chinese judicial practices (the Report).[18] Under the heading of 'Civil Litigation concerning the Environment and Natural Rresources', both documents included certain 'litigation as a response to climate change', including disputes concerning 'carbon emissions', 'energy conservation', 'green finance', and 'biodiversity conservation'. It constitutes the only formal confirmation of CCL in Chinese official judicial documents. This categorization is obviously somewhat different from the mainstream understanding of CCL. To gain further insight into this distinctive category of litigation and its relation with non-Chinese CCL, this article adopts an empirical approach to probe into the status of CCL in the legal context of China.

Although the current Chinese legal system does not formally recognize precedent, earlier cases are often cited for persuasive authority. Some courts also follow precedent to decide issues when statutes are vague.[19] In particular, certain decisions of the SPC that can be read as generating legal norms could have binding effect on lower courts.[20] This shows the efforts of the Chinese judiciary to guarantee consistency in judicial decisions.[21] With regard to CCL, as there is no specific legal framework in China that could possibly offer a clear definition of its scope, judicial decisions therefore represent an important, if not the only source to which this study could refer. By collecting and

16 See 沈跃东, 气候变化政治角力的司法制衡 [Y. Shen, 'Judicial Checks and Balances of Political Change in Climate Change] (2014) 6 *法律科学（西北政法大学学报）*[*Science of Law (Journal of Northwest University of Political Science and Law)*], pp. 35–42, at 39.

17 中华人民共和国最高人民法院，*关于充分发挥审判职能作用为推进生态文明建设与绿色发展提供司法服务和保障的意见* [The Supreme People's Court of the People's Republic of China (SPC), *Opinions on Giving Full Play to the Role of Judicial Functions to Provide Judicial Services and Guarantees for Promoting Ecological Civilization Construction and Green Development*] (2016 Opinion).

18 中华人民共和国最高人民法院，*中国环境资源审判(白皮书)*, [SPC, *China Environmental Resources Trial (White Paper)*] Beijing (2016) p. 24.

19 彭中礼, 司法判决中的指导案例 [Z. Peng, 'Guiding Cases in Judicial Decisions'] (2017) 6 中国法学 [*China Legal Science*], pp. 129–48.

20 W. Luo, *Chinese Law and Legal Research* (William S. Hein & Co Press, 2005), pp. 110–6. See also SPC, 'Rules on Guiding Cases', 26 Nov. 2010, available at: https://cgc.law.stanford.edu/wp-content/uploads/sites/2/2015/10/guiding-cases-rules-20101126-chinese.pdf (in Chinese).

21 Furthermore, as part of the current Chinese 'institutional judicial reform' Chinese judges are required to prepare a 'Report of Similar Cases Analysis' before trial: see Communist Party of China (CPC), 中共中央关于全面深化改革若干重大问题的决定 ['Decision of the Central Committee of the Communist Party of China on Several Major Issues concerning Comprehensively Deepening Reform'], 15 Nov. 2013, available at: http://www.china.org.cn/china/third_plenary_session/2014-01/16/content_31212602.htm. See also CPC, 关于司法体制改革试点若干问题的框架意见 ['Framework Comments on a Number of Issues related to the Pilot Reform of the Judicial System'], 6 June 2014 (key points of this document are addressed in official news reports, such as (人民网）[People.cn], available at: http://politics.people.com.cn/n/2014/0616/c1001-25151030.html); and SPC, 最高人民法院司法责任制实施意见（试行）['Implementation Opinions of the Supreme People's Court Judicial Responsibility System (Trial)'], 1 Aug. 2017, available at: http://rmfyb.chinacourt.org/paper/images/2017-08/01/01/2017080101_pdf (in Chinese).

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examining relevant cases, the article intends to provide a comprehensive empirical analysis of the version of CCL in China.

2.1. *Methodology*

Markell and Ruhl correctly noted that '[w]ithout a complete picture of what has and has not been within the sweep of climate change litigation, it is difficult to offer a robust evaluation of the past, present, and future of climate change jurisprudence'.[22] So, to reveal how Chinese courts currently understand CCL and to explore the present and future of possible CCL in China, this article will first analyze 177 cases from 2011 to 2018 involving 'carbon emissions', 'energy conservation', 'green finance', and 'biodiversity conservation'. The cases are identified by keywords selected according to the description of each category of cases in the 2016 Opinion.[23]

Based on keyword searches in a court rulings database known as 中国裁判文书网 [China Judgments Online][24] and in some unofficial databases (e.g. http://www.itslaw.org) to complement the results, the initial dataset included 7,200 cases. Having eliminated non-civil cases,[25] 5,190 cases were left. In order to limit the number of cases to a manageable size and guarantee the inclusion of the most relevant cases, the research team adopted a case-by-case manual selection approach.

Firstly, as the results found under 'new plant species', 'contractual energy management', and 'energy conservation' are voluminous, the research team randomly picked 20 to 30 cases from each type.[26] Secondly, duplicated results[27] – and obviously irrelevant cases involving, inter alia, matrimonial, succession and labour disputes – were eliminated. Moreover, cases that make only passing reference to the keyword-related issues without directly and meaningfully addressing the laws, policies and actions that compel, support, or facilitate climate mitigation or adaptation were not taken

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22 Markell & Ruhl, n. 2 above, p. 23.

23 For more details see Table 1.

24 China Judgments Online, available at: http://wenshu.court.gov.cn (in Chinese). Judicial reforms in China have intensified since 2013. On 1 Jan. 2014, China initiated a major policy change. Its judicial decisions – previously available only to the lawyers and parties involved – must now all be published online. In order to achieve this goal, the SPC established this open access database (China Judgments Online), archiving the decisions of every court in China: see SPC, 最高人民法院关于人民法院在互联网公布裁判文书的规定 ['Provisions on the Publication of People's Courts' Judicial Decisions on the Internet'], 21 Nov. 2013, available at: http://www.chinacourt.org/law/detail/2013/11/id/147242.shtml (in Chinese). See also 马超等，大数据分析: 中国司法裁判文书上网公开报告 [C. Ma et al., 'Big Data Analysis: Report on the Publication of Chinese Judicial Decisions on the Internet'] (2016) 4*中国法律评论* [*China Law Review*], pp. 195–246. By 2018, China Judgments Online had already recorded 42.6 million decisions and become the largest judicial dataset in the world: see 中国裁判文书网累计公布裁判文书4260余万篇成全球最大 ['CJO Recorded 42.6 Million Decisions and Has Become the Biggest in the World], *Gmdaily.cn*, 27 Feb. 2018, available at: http://baijiahao.baidu.com/s?id=1595348595027373546&wfr=spider&for=pc (in Chinese).

25 In the 2016 Opinion 'litigation as a response to climate change' falls within the category of 'Civil Litigation of the Environment and Natural Resources'.

26 The first 5–10 cases of each page of cases identified from 2015 to 2018.

27 By 'duplicated results' is meant: (i) decisions on the same legal issue in different instances (decisions of the last instance prevail); (ii) common joint actions (according to Art. 52 of the Chinese Civil Procedure Law, '[w]hen one party or both parties consist of two or more than two persons, their object of action being the same or of the same category and the people's court considers that, with the consent of the parties, the action can be tried combined, it is a joint action'); (iii) the same result identified by different keywords.

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into account (Table 1). Consequently, a final dataset of 177 cases was produced. The team then coded the dataset of cases according to three variables: (i) the type of plaintiff and defendant; (ii) the cause of action; and (iii) the outcome of the case.

2.2. *Overall Findings*

This analysis reveals some important insights into critical features and trends of Chinese CCL.

Trend 1: Contractual disputes with enterprises related to energy conservation and biotechnology as plaintiffs and defendants dominate (see Figure 1,[28] Figure 2)

While all Chinese CCL cases are civil actions, there is nonetheless variation in the specific types of action. Contractual disputes obviously predominate (69%), while tort disputes occur mainly within the category of biodiversity-related intellectual property (IP) cases (less than 21%). Among contractual disputes, the most frequent disputes concern service contracts (27%), which generally involve 'energy management service contracts'. These refer to cooperative energy-saving projects which often assume the form of contracts between energy-saving service companies and industrial energy consumers. In such cases, usually the energy-saving service provider will first invest in the installation of the energy-saving system to guarantee its performance on energy conservation. It will then share the benefit derived from the energy-saving project. If the owner of the project, for various reasons, refuses to share the benefit or stops running this energy-saving equipment, a dispute may arise. Coming in second are cases related to IP disputes (21%) concerning the protection and transfer of environmental and biodiversity-related technologies.

As for the players involved, in Chinese climate change-related cases the parties are diverse, yet the majority are companies operating in the fields of energy conservation, carbon emissions reduction, and biotechnology. For instance, service contracts disputes, which occur most frequently, mainly involve energy service companies (providers of technological services in respect of energy management) and companies with energy-saving demands. By contrast, IP disputes involve predominately agricultural biotechnology companies. Individuals, the government and government agencies also participate, apart from companies, especially in disputes arising from administrative contracts between individuals and the government concerning forest conservation and the rational use of land.

Trend 2: Obvious judicial tendency in favour of low-carbon economy policy (Table 2)

Table 2 shows judicial trends in Chinese CCL. The success rate among the 177 cases is impressive, and averages 49.7% (compared with a failure rate of 17.5%).[29] The success

[28] The causes of action listed here are all officially recognized by the SPC in the Regulation on the Causes of Civil Cases (2007, modified in 2011), available at: http://en.pkulaw.cn/display.aspx?cgid=93b313fc008faf44bdfb&lib=law.

[29] 'Success' refers to the effect of the outcome of the case on climate change-related issues. When the judicial decision is clearly in favour of a stronger response to climate change, a success will be recorded, and vice

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Table 1 Case Collection and Selection Process for the Chinese 'CCL' Dataset[a]

Keywords[b]		Initial number	Civil cases[c]	Selected cases[d]	Reasons for excluding cases
Carbon emissions	Carbon market	5	3	0	N/A
	Carbon sinks	101	40	14	17 repetitive, 8 labour, 1 credit
	Carbon trade	20	12	3	5 repetitive, 2 labour, 2 IP
	Carbon emissions	33	19	8	4 repetitive, 3 traffic, 2 debt, 2 labour
	CDM	36	27	12	17 repetitive, 2 labour
	Carbon reduction	17	11	7	2 repetitive, 1 patent, 1 labour
Energy conservation	Energy conservation	42	17	13	2 repetitive, 2 labour
	Contractual energy management	681	587	20	Sampling method: The first 5 cases of each page of cases identified from 2015 to 2018
	Water saving management	23	17	3	12 labour, 2 traffic
	Sludge – harmless treatment	1	0	0	N/A
	Disposal of waste resources	84	44	20	15 repetitive, 5 labour
	Energy saving and emissions reduction	2,321	1,315	30	Sampling method: The first 10 cases of each page of cases identified from 2016 to 2018
Green finance	Green finance	4	0	0	Administrative cases
	Green credit	3	1	1	Criminal cases
	Green bonds	0	0	0	N/A
	Green insurance (ELI)	8	8	4	1 repetitive, 2 environmental torts, 1 other
	Emission rights	30	27	27	Criminal cases

(*Continued*)

Keywords[b]		Initial number	Civil cases[c]	Selected cases[d]	Reasons for excluding cases
	Water rights	3	3	0	3 neighbours' rights
	Energy use rights	0	0	0	N/A
Biodiversity conservation (IP cases)	Biological genetic resources	3	2	1	Non IP cases which are irrelevant to the protection and rational use of genetic resources.
	New plant species	3,784	3,067 (408 IP cases)	29	Non-IP cases and IP cases which are irrelevant to new plant species. Sampling method: The first 5 cases of each page of cases identified from 2015 to 2018.

Notes

[a] As the search is based on the Chinese Judgments Online database, which is known for its inadequate transparency, some important cases have not been recorded. Secondly, the most important limitation of this approach lies in the lack of official definition of all relevant categories of case, as the database classifies judicial cases according to the categorization of 'causes of cases' recognized by the SPC. Yet, the definition of Chinese CCL in the Opinion led the research team only to a rather broad and vague categorization of cases. Consequently, the selected keywords may not accurately correspond with the choice of wording (or the phraseology) of the judicial texts. Thus, some decisions may not be identified in the case collection process. Lastly, also as a result of the ambiguous categorization of cases, there were many repetitive and irrelevant results in the initial set of cases and, notwithstanding the team's efforts to include all relevant cases in the dataset, some cases could still have been excluded. The number of results found by 'new plant species' is huge, as it corresponds exactly with one 'cause of action' recognized by the Supreme Court under the category of IP cases.

[b] Keywords are selected according to the description of each category of cases in the Opinion.

[c] In the 2016 Opinion (n. 17 above), 'litigation as a response to climate change' falls within the category of 'Civil Litigation of the Environment and Natural Resources'.

[d] In order to limit the number of cases to a manageable size and guarantee the greatest relevance of the cases, the team turned to a case-by-case manual selection approach.

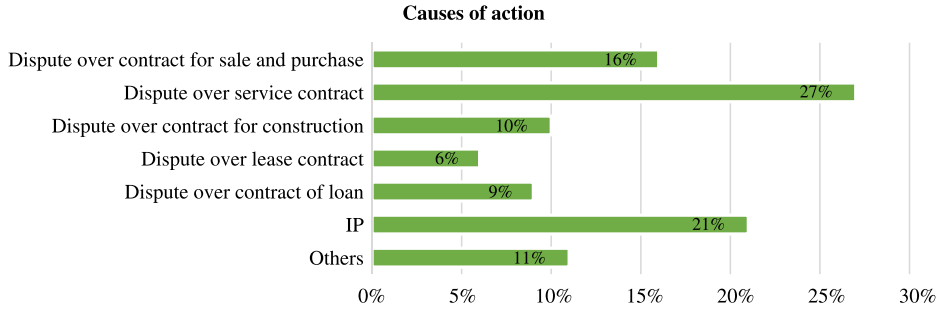
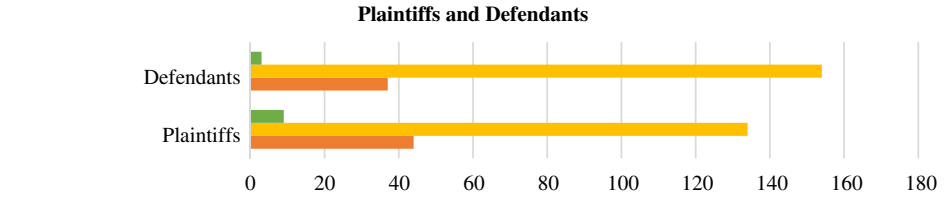


Figure 1 Summary of Causes of Action



	Plaintiffs	Defendants
Administrative authority	9	3
Company	134	154
Individual	44	37

Figure 2 Categorization of Plaintiffs and Defendants

rate of cases identified under 'carbon emissions' and 'energy conservation' is even higher, as they mainly involve disputes over energy management service contracts.

Energy conservation is one of China's 'basic state policies', and has been integrated in the Energy Conservation Law (ECL). Article 66 ECL explicitly stipulates that 'the state supports the promotion of power demand side management, contract energy management, energy conservation voluntary agreements, and other energy-saving methods'. In 2010, The Chinese government issued a policy document to promote the energy-saving service industry through the implementation of 'contract energy management'.[30] Therefore, this relatively high success rate possibly reveals the efforts

versa. This article defines a decision in favour of a better response to climate change as one which facilitates the financing of low-carbon industries (i.e., in disputes over loan contracts, contracts of sale and purchase, and lease contracts), protects agricultural biotechnology or low-carbon technologies and encourages the transfer of relevant technologies (i.e., IP infringement cases), or promotes energy conservation projects and guarantees the fulfilment of relevant contractual obligations (especially with regard to disputes over service contracts, contracts of sale and purchase, and contracts for construction). When the effect of the judgment cannot be identified easily (as in the case of some IP contractual disputes), it is recorded as 'neutral'.

30 See 发改委、财政部、中央银行和税务总局,《关于加快推行合同能源管理促进节能服务产业发展的意见》[National Development and Reform Commission (NDRC), Ministry of Finance, Central People's Bank and National Administration of Taxation, 'Opinions on Accelerating the Implementation of Contract Energy Management to Promote the Development of the Energy-saving

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of the Chinese judiciary in helping to implement the relevant laws and policies that address low-carbon economy issues. In a typical case, the plaintiff (an energy service company) claimed that the defendant did not perform its contractual obligation to share the profits generated from the energy management project, yet the defendant (a coke-powered plant) argued that, as the circumstances had changed (a huge cost increase), the contract should be modified accordingly, and the fulfilment of its obligation under the current contract would be unfair to the defendant. The court decided in favour of the plaintiff energy service company and ordered the defendant to share the profits.[31]

In some circumstances, the court explicitly refers to the government's environmental policies in its reasoning.[32] In one contract dispute, for example, the plaintiff claimed that the defendant, a property developer, was liable for breach of contract as it had installed an external solar water heating system and charged an additional fee for the installation, which had not been foreseen in the original sales contract. In the judicial decision of the second instance, the local court dismissed the plaintiff's claim, holding that:

> Although the two sides in the contract contain no agreement on the installation of a solar water heating system, given that the government promotes the use of solar energy as a green power, and that the installation … is also clearly required by the Qinghai provincial people's government in the Qinghai Green Building Action Implementation Plan, the [installation effectuated by the] defendant is in line with the energy-saving and low-carbon policy requirements [of the government], which should thus be supported and encouraged.[33]

Another case involved a taxi management contract signed between the owner of the car and a taxi management company. The latter wanted to terminate the contract unilaterally on the grounds that it was a 'yellow labelled car', and therefore a heavy-polluting vehicle, which was subject to the state's mandatory write-off policy. In its decision, the court decided in favour of the taxi company:

> Atmospheric environmental protection is related to the fundamental interests of the people, the sustainable and healthy development of the economy, the comprehensive well-being of society, the realization of the great rejuvenation of the Chinese nation's dream … In order to improve air quality, the State Council formulated the Air Pollution Prevention Action Plan … To implement the Air Pollution Prevention Action Plan, [on] 10 October 2015 the Ministry of Environmental Protection [and five other ministries] jointly issued the 'Notice on the Elimination of Yellow Labelled Cars' … In accordance with Article 6 of the Civil Law of the People's Republic of China, 'Civil activities must

Service Industry'], 6 Apr. 2010, available at: http://www.gov.cn/zwgk/2010-04/06/content_1573706.htm (in Chinese).

31 3 Nov. 2017, *河北思创伟业科技有限公司与邯郸市峰峰峰泰焦化有限公司合同纠纷案* [*Hebei Sichuangweiye Co. Ltd* v. *Handan Fengfengfengtai Co. Ltd*], Appl. No. 04 civil 4319, (2017) in Hebei Handan Middle Court.

32 3 Mar. 2017, *唐珠娇与湛江市麻章区大安汽车运输有限公司挂靠经营合同纠纷案* [*Tang Zhujiao* v. *Da'an Auto Transport Co. Ltd*], Case No. 08 civil 109, (2017) in Zhanjiang Mazhang District Court.

33 10 Apr. 2017, *惠勇与青海三兴房地产开发有限公司商品房预售合同纠纷案* [*Hui Yong* v. *Qinghai Sanxing Real Estate Co. Ltd*], Appl. No. 01 civil 301, (2017) in Qinghai High Court.

> respect the law, [and] where the law is silent, the state policies'. The court decides to dismiss the plaintiff's claim since it was clearly inconsistent with the state's current policy.[34]

It should be clarified that, in most cases, the state environmental policies referred to enjoy only 'persuasive authority' to support judges' reasoning in their decisions, as policies typically lack the clarity and legitimacy of legal norms. It is only after government policies have been translated into regulations or other legislative forms that they could become the formal basis of any judicial decision.

3. CHINESE CCL AND THE STANDARD ACCOUNT OF CCL: DIFFERENT REGULATORY PATHWAYS

In order to reveal how the understanding of CCL among Chinese courts differs from that associated with the standard account of CCL, this article performs a comparative study between general transnational practices and the Chinese version of CCL, using the results of the empirical analysis.

3.1. *How Does Chinese CLL Differ from the Standard Account of CCL?*

Before undertaking a comparison, it is important to address the question of what constitutes the standard account of CCL. Peel and Osofsky have proposed a broad definition of CCL, which includes 'litigation with climate change as the central issue' (core cases), 'litigation with climate change as a peripheral issue', 'litigation with climate change as one motivation but not raised as an issue', and 'litigation with no specific climate change framing but implications for mitigation or adaptation' (such as fracking cases).[35] Although this definition of CCL could include a broad range of cases, most academic focus has been on the 'cases with deliberate framing of the arguments or judgment in climate change terms'. Hence, that is the image that dominates in mainstream conceptualizations of CCL. Chinese CCL cases, however, do not correspond to this stereotype on a range of factors. In order to demonstrate how most typical practices of CCL may differ from the Chinese version of CCL, we chose to focus on the core cases with 'deliberate framing of the arguments or judgment in climate change terms'.

Statutory/rights-based litigation against governments v. *contract-based actions against industry*

The most well-known case of CCL in the US, *Massachusetts* v. *EPA*, focused on statutory interpretation – whether the US EPA had abused its discretion by refusing to regulate GHG emissions under the Clean Air Act. Unlike this statutory-based approach, rights-based CCL represents a relatively new phenomenon. In 2015, a Pakistani court in the case of *Leghari* v. *Federation of Pakistan*[36] made history by accepting

[34] 13 Mar. 2017, 吴伦吟挂靠经营合同纠纷二审民事判决书 [*Wu Lunyin* v. *Guangdong Zhanjiang Mazhang District Da'an Automobile Transportation Co. Ltd*], Appl. No. 08 civil 107, (2017) in Zhanjiang Middle Court.

[35] Peel & Osofsky (2013), n. 10 above, p. 176.

[36] Peel & Osofsky, n. 11 above, p. 63. See also *Leghari*, n. 11 above.

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the argument that failures on the part of the government to address climate change violated the petitioners' rights. In the recent appeal in *Urgenda*, the state was also held accountable on human rights grounds.[37] These cases, either involving statutory interpretation or human rights protection, are examples of the predominant judicial strategy of pursuing climate change goals by suing government bodies.[38] Tort-based CCL (or actions based on public nuisance)[39] – where plaintiffs hold emitters responsible for causing climate change – has grown rapidly over the last two years,[40] but has never been successful to date.[41] This is largely because diffuse and disparate anthropogenic GHG emissions represent the 'paradigmatic anti-tort'.[42]

In contrast, the majority of Chinese CCL cases target companies that are mostly carbon emitters. Yet, instead of addressing climate change-related concerns *per se*, these cases are contract-based civil disputes, and the plaintiffs are companies rather than individuals or non-governmental organizations (NGOs). The contracts are usually signed between green economy companies, such as in the energy-saving industry. The role of the court in Chinese CCL cases is to help to regulate the low-carbon market and define the behavioural pattern of the relevant players. These are private interest litigation cases; the public interest with regard to climate change does not feature even at the periphery of legal arguments in their adjudication.

Law-oriented v. *policy-oriented litigation*

In CCL across the globe, especially in common law countries, judges have played a dominant role. Their adjudication has given concrete meaning to climate-related values and ordered the administration to take specific measures to address climate change issues.[43] Yet, as an empirical analysis by Markell and Ruhl found, judgments in the US are a 'mixed bag with no clear favored position', with courts 'applying existing

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37 Ibid., p. 61. See also *Urgenda*, n. 11 above. See also J. van Zeben, 'Establishing a Governmental Duty of Care for Climate Change Mitigation: Will *Urgenda* Turn the Tide?' (2015) 4(2) *Transnational Environmental Law*, pp. 339–57; B. Mayer, '*The State of the Netherlands* v. *Urgenda Foundation:* Ruling of the Court of Appeal of The Hague (9 October 2018)' (2019) 8(1) *Transnational Environmental Law*, pp. 167–92.

38 As indicated in UNEP (n. 12 above, p. 14), the first of the five trends in CCL is 'holding governments to their legislative or policy commitments'.

39 R.S. Abate, 'Automobile Emissions and Climate Change Impacts: Employing Public Nuisance Doctrine as Part of a "Global Warming Solution" in California' (2008) 40(3) *Connecticut Law Review*, pp. 591–630, at 591. See also J.B. Ruhl, 'Making Nuisance Ecological' (2008) 58(3) *Case Western Reserve Law Review*, pp. 753–85, at 753, 757; J.N. Stedman, 'Climate Change and Public Nuisance Law: AEP v. Connecticut and Its Implications for State Common Law Actions' (2012) 36(3) *William & Mary Environmental Law and Policy Review*, pp. 864–915, at 865.

40 G. Ganguly, J. Setzer & V. Heyvaert, 'If at First You Don't Succeed: Suing Corporations for Climate Change' (2018) 38(4) *Oxford Journal of Legal Studies*, pp. 841–68.

41 See M. Conway, 'Climate Nuisance Lawsuits Need a Major Win', *Nonprofit Quarterly*, 2 July 2018, available at: https://nonprofitquarterly.org/2018/07/02/climate-nuisance-lawsuits-need-a-major-win.

42 Benjamin & Kysar, n. 13 above, p. 369. See also 曹明德, 中国参与国际气候治理的法律立场和策略:以气候正义为视角 [M. Cao, 'The Legal Standpoint and Strategy of China to Participate in International Climate Governance'] (2016) 1 *中国法学* [*China Legal Science*], pp. 29–48.

43 E.T. Lee, 'Deconstitutionalizing Justiciability: The Example of Mootness' (1992) 105(3) *Harvard Law Review*, pp. 603–25.

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Table 2 Summary of Outcomes of Cases

Category	No. of cases	'Win'	'Neutral'	'Lose'	Win rate
Carbon emissions	44	24	15	5	55%
Energy conservation	86	44	30	12	51%
Green finance	14	7	5	2	50%
Biodiversity (IP cases)	33	13	8	12	39%
TOTAL	177	88	58	31	Average 49.7%

laws consistent with their settled interpretations, rather than embedding a new jurisprudence of climate change within the existing statutory frameworks'.[44]

In contrast, Chinese judges decide largely in accordance with government policy. As demonstrated in the empirical study of 177 Chinese CCL cases, Chinese judges invoke not only relevant legislation but also climate change-related policies in arriving at their decisions. If, in the US, 'the courts have treated climate change as business as usual',[45] Chinese court rulings reflect certain influences of Chinese low-carbon policies on the judiciary, who seek to help to accomplish the climate change goals set out in the policies. However, in most cases Chinese courts have stopped short of developing specific case law in response to the particular concern of fostering a low-carbon economy. Considering the sizeable number of 'neutral' cases (see Table 2), we may conclude that Chinese judges, while being steered by government policies, still try to retain judicial impartiality and adjudicate according to law.

To conclude, CCL (so called) in China mainly involves actions related to contract disputes brought by or involving energy or biotechnology enterprises. Whether these cases will play a positive role in addressing climate change is not obvious. The enterprises involved in litigation are motivated by protecting contractual rights or fulfilling contractual obligations rather than achieving specific climate change goals. Therefore, in these cases, concern for climate change does not feature even at the periphery of the argument. Instead of the plaintiff, it is the court that seeks to help to implement public policies on the low-carbon economy. However, since the judgments could help in promoting better performance of the low-carbon economy and therefore have a positive implication for climate mitigation or adaptation (even if it represents merely an indirect and incidental effect), Chinese 'CCL', without addressing climate change-related concerns *per se*, could still fall within the broadest definition of CCL.[46]

3.2. *The Chinese 'Government-led Regulatory Pathway' of CCL*

Despite the great efforts of the Chinese government to tackle climate change, some gaps still exist in Chinese climate change regulation, especially with regard to the adaptation

[44] Markell & Ruhl, n. 2 above, p. 77.
[45] Ibid.
[46] Peel & Osofsky, n. 2 above, p. 8.

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aspects of climate change[47] and the absence of legally binding GHG emissions reduction targets.[48] In this context 'litigation can provide a limited opportunity for judges, lawyers, academics, and NGOs to explore new roles' and, in so doing, offer proactive strategies to tackle climate change, while gently expanding 'the universe of political possibilities'.[49] The question therefore arises whether this form of CCL, which is more strategic and less contract-based in nature, is likely to emerge in China. If so, what would be the most likely channel for future CCL in China? To answer these questions, it is first necessary to conduct an analysis of the Chinese regulatory context.

There are two major differences between China's regulatory context and that of most democratic common law countries: namely, limited judicial activism, and relatively stronger government performance in tackling climate change. Firstly, the Chinese government is absolutely central in addressing climate change. Whereas the US, in particular, is lagging behind, and even reversing climate change action in support of the fossil fuel sector,[50] the Chinese government is relatively active in response to climate change and has implemented some effective measures. At the international level, China is a party to the United Nations Framework Convention on Climate Change (UNFCCC)[51] as well as its Kyoto Protocol[52] and the Paris Agreement.[53] As a non–Annex I country, which has no legally binding obligation to reduce carbon emissions under the Kyoto Protocol, China's GHG emissions reductions are voluntary. Yet, China has promised to peak its carbon dioxide (CO_2) emissions in around 2030, including a pledge to cut its carbon intensity by 3.5% per year through to 2030.[54] With a firm resolution for change and effective implementation of solid measures, China's fossil fuel

47 X. He, 'Legal and Policy Pathways of Climate Change Adaptation: Comparative Analysis of the Adaptation Practices in the United States, Australia and China' (2018) 7(2) *Transnational Environmental Law*, pp. 347–73, at 347.

48 In 2010, under the aegis of the National Development and Reform Committee (NDRC) and the former Ministry of Environmental Protection (MEP), a draft of the Law on the Response to Climate Change was drawn up by a group of environmental jurists. It clarified the duty of the government to take action against climate change. Thus far, however, it merely remains a draft that has not been the subject of serious discussion among Chinese legislators. Since the low-carbon policies have not been crystallized into Chinese legislation, Chinese industrial emitters, while being generally aware of discharging fewer air pollutants in accordance with environmental laws, nevertheless are not under any legal obligation to reduce GHG emissions.

49 R. Stern, *Environmental Litigation in China: A Study in Political Ambivalence* (Cambridge University Press, 2015), p. 2.

50 S. Mufson, 'Trump Promotes Fossil Fuels and Assails Pollution Rules in Energy Plan', *Washington Post*, 26 May 2016, available at: https://www.washingtonpost.com/business/economy/trump-pledges-to-bring-energy-independence-to-america/2016/05/26/eba464b6-234e-11e6-9e7f-57890b612299_story.html?utm_term=.a632476251df.

51 New York, NY (US), 9 May 1992, in force 21 Mar. 1994, available at: https://unfccc.int/resource/docs/convkp/conveng.pdf.

52 Kyoto (Japan), 11 Dec. 1997, in force 16 Feb. 2005, available at: http://unfccc.int/resource/docs/convkp/kpeng.pdf.

53 Paris (France), 12 Dec. 2015, in force 4 Nov. 2016, available at: http://unfccc.int/paris_agreement/items/9485.php.

54 See 中国国家发改委，*强化应对气候变化行动——中国国家自主贡献* [National Development and Reform Commission, *Actions to Address Climate Change: China's National Independent Contribution*], 31 Jun. 2015, available at: http://www.ndrc.gov.cn/xwzx/xwfb/201506/t20150630_710204.html (in Chinese).

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CO_2 emissions dropped by 0.6% in 2015 and 0.35% in 2016.[55] The Chinese economy grew by nearly 7% in 2017, but emissions increased by just 1.7% (or 150 MT) thanks to continued renewable deployment and faster coal-to-gas switching.[56] Some studies even predict that, among other factors, by decreasing its reliance on coal, increasing investment in clean energy, and shifting its economy away from heavy industry and towards services, 'China will exceed both its energy intensity and clean energy goals by 2020 and peak its carbon emissions by 2025, five years ahead of its international commitment'.[57] Therefore, if CCL is a way to respond to the inaction of the government or its failure to take significant action to address climate change concerns in most jurisdictions, holding the government accountable for its failure to perform climate-related duties may not be the major motivation for CCL in the context of China.

Secondly, Chinese courts are 'rule-interpreting bureaucrats' rather than 'value-driven lawmakers'.[58] One critical legal precondition for the emergence of CCL is the independence of courts and judges. In countries where governments have expressly prioritized development (such as Pakistan), and where governments are actively addressing climate change (such as the Netherlands, Sweden, and Switzerland), judicial independence guarantees that courts are not subject to improper influence from the government or from private or partisan interests; courts, therefore, can push the government on concrete action to tackle climate change. However, notions of judicial independence are less strongly embedded in Chinese legal culture than in, for example, the US. In the US, where judicial independence is safeguarded by the separation of powers, it is legitimate for courts to conduct judicial review of executive orders and legislative actions of the government. In China, following the statute-oriented civil law tradition, judges refrain from constructive interpretation, lest they be seen as legislating. Judicial activity is sometimes understood as a way to help to achieve state policy goals.[59]

This relatively subordinate role of Chinese courts to the government in tackling climate change could be a double-edged sword for the emergence of CCL in the country. On the one hand, existing power arrangements indicate that the judiciary is the weakest branch compared with the congress and the government.[60] It is stipulated explicitly in China's Constitution that the People's Congress enjoys the 'highest power' in the

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55 See 中国低碳发展报告（2017）[*Report on China Low-carbon Development (2017)*], available at: http://ex.cssn.cn/jjx/jjx_bg/201801/t20180118_3820474.shtml (in Chinese).

56 See International Energy Agency (IEA), *International Energy Agency: Global Energy & CO_2 Status Report 2017*, Mar. 2018, available at: http://www.iea.org/publications/freepublications/publication/GECO2017.pdf.

57 H. Chen, 'China on Track to Exceed Copenhagen Climate Target for 2020', *NRDC Expert Blog*, 15 Mar. 2016, available at: https://www.nrdc.org/experts/han-chen/china-track-exceed-copenhagen-climate-target-2020.

58 Stern, n. 49 above, p. 2.

59 李清伟，司法克制抑或司法能动—兼论公共政策导向下的中国司法能动 [Q. Li, 'Judicial Restraint or Judicial Initiative: On China's Judicial Initiative under the Guidance of Public Policy'] (2012) 3(19) 法商研究 [*Studies in Law and Business*], pp. 85–93, at 87.

60 Therefore, Chinese courts represent the weakest branch in the power arrangement structure: see 彭小龙，现代社会中司法的力量——兼论转型中国司法的两难困境及应对 [X. Peng, 'Judicial Power in Modern Society: Judicial Dilemma in Transitional China and Its Solutions'] (2009) 6 现代法学 [*Modern Law Science*], pp. 2–11.

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country. If the courts were able to review the legality of government policies, they would be conferred a stronger position in relation to the Peoples' Congress, which would threaten the values underlying the principle of congressional control over the judiciary. In this context, it would be unrealistic to count on the courts to rule against regulatory authorities when the law has not imposed duties on the government to reduce GHG emissions. On the other hand, in common law countries where 'checks and balances' are guaranteed by constitutional law, courts may refrain from adjudicating tort-based CCL because of the political question doctrine,[61] as well as the doctrines of pre-emption and displacement.[62] Similar dilemmas will not concern Chinese judges. Our empirical study shows that Chinese environmental policy, though obviously political in nature, in contrast would steer the court's behaviour, often in unspectacular yet conscious ways.

To conclude, instead of the court-driven regulatory policy-making process that is to be found especially in the Netherlands, India and Pakistan,[63] China follows a government-led pathway in response to climate change, leaving courts with a secondary supporting role. Given the subservient relationship between the judiciary and the executive, it is highly unlikely that CCL involving public authority defendants would ever take off in China if government duties to reduce GHG emissions are not prescribed by law. However, this still leaves the question of whether tort-based litigation, targeting private defendants, could flourish in China. To answer this question, the next section looks at developments in PIL on air pollution to gauge the likelihood that trends in this area could migrate towards the field of CCL.

4. A POTENTIAL PATHWAY FOR CHINESE CCL: PUBLIC INTEREST LITIGATION RELATED TO AIR POLLUTION IN CHINA

Chinese courts, despite their limited competence, have the potential to push for greater change in tort-based CCL if Chinese government policy encourages them to do so. A key model for prospective tort-based CCL to follow could be the recent policy-oriented PIL on air pollution in China.

4.1. *PIL Cases related to Air Pollution in China*

China's air pollution has been a problem for decades, with the issue drawing significant attention at both local and international levels. The Chinese government is

[61] The political question doctrine was first articulated in *Marbury* v. *Madison* when Justice Marshall stated '[q]uestions, in their nature political, or which are, by the constitution and laws, submitted to the executive, can never be made in this court': see A. Thorpe, 'Tort-Based Climate Change Litigation and the Political Question Doctrine' (2008) 24(1) *Journal of Land Use & Environmental Law*, pp. 79–105, at 103–4; see also J. Jaffe, 'The Political Question Doctrine: An Update in Response to Climate Change Case Law' (2011) 38(4) *Ecology Law Quarterly*, pp. 1033–66, at 1033.

[62] The pre-emption doctrine derives from the Supremacy Clause of the US Constitution, which states that the 'Constitution and the laws of the United States … shall be the supreme law of the land … anything in the constitutions or laws of any State to the contrary notwithstanding'. This means that any federal law – even a regulation of a federal agency – trumps any conflicting state law. The doctrine of displacement is the 'close cousin' of the pre-emption doctrine; it determines when a statutory enactment overrides federal common law: Benjamin & Kysar, n. 13 above, pp. 378–408.

[63] N. 36 and n. 37 above.

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finally determined to fight air pollution for the sake of a cleaner sky. As part of the official policy drive to 'make China's sky blue again', there has been a strong push to reduce pollutant emissions by, among others, ending national dependence on coal through the creation of solar and wind farms and, potentially, by a future ban on non-electric cars.[64] In 2013, China's State Council released its first Action Plan for Air Pollution Prevention and Control (Action Plan), setting the road map for air pollution control for the next five years. The Chinese government has promised to lower the concentration of particulate matter PM2.5 in China and to 'substantially' improve air quality in the country by 2035. In 2015, the newly amended Air Pollution Prevention and Control Law came into full effect. It requires cities to regularly submit and release definitive plans to ensure they are on track to meet national air quality targets and accordingly it imposes heavier fines on emitters who fail to meet air emission standards. Under the steering effect of these governmental actions, PIL has emerged to strengthen the nationwide anti-air pollution trend. Since 2015, tort-based PIL on air pollution, initiated by NGOs and public prosecutors, has helped to secure compensation for damage caused by air pollution. This phenomenon illustrates the potential for the Chinese judiciary to play a positive role in helping to implement government air policies and relevant legislation.

While, to date, there is no record of tort-based CCL in China, PIL cases concerning air pollution have emerged as a new judicial phenomenon.[65] The first case, decided in 2016, was brought by the environmental NGO All-China Environment Federation (ACEF) against Jinghua Group Zhenhua Co. Ltd (JH).[66] ACEF contended that JH should pay compensation for damage to public environmental interests caused by its excessive emissions of air pollutants. Recognizing the adverse effect on the environment and public health caused by JH's unlawful emissions, the court found for the plaintiff and ordered JH to pay compensation. After this first successful example, 15 more cases were filed in 2016 alone.

In these cases, the defendants are mainly petrochemical companies with air pollutant emissions exceeding the legal threshold (9 cases) and motor vehicle production and sales enterprises (4 cases),[67] and the plaintiffs are mostly NGOs.[68] As to the cause of

[64] According to 中国电力发展"十三五"规划（2016–2020）['China's Thirteenth Power Sector Five-Year Plan (2016–2020)'] new renewable energy targets have been set. The plan placed a limit on the capacity of coal-fired power plants at 1,100 GW by 2020, and a limit on the percentage of coal in primary energy at less than 58%, down from 64% in 2015, available at: http://www.ndrc.gov.cn/zcfb/zcfbghwb/201612/P020161222570036010274.pdf (in Chinese).

[65] See D.D. Boer & D. Whitehead, 'Environmental Public Interest Litigation in China: From Experiment to Practice', *Chinadialogue*, 11 Aug. 2016, available at: https://www.chinadialogue.net/article/show/single/ch/9356-Opinion-The-future-of-public-interest-litigation-in-China.

[66] 18 Jul. 2016, *中华联合环保会诉德州晶华集团振华有限公司* [*All-China Environment Federation* v. *Jinghua Group Zhenhua Co. Ltd*], Case No.1 civil, (2015) in Dezhou Middle Court.

[67] See 吴青等, 大气污染环境公益诉讼：哪些经验可为我所用？[Q. Wu et al., 'Air Pollution Environmental Public Interest Litigation: What Experiences Could Be Used for Us?'], *King&wood Mallesons.net*, 9 Sep. 2016, available at: http://www.kwm.com/zh/cn/knowledge/insights/experiences-from-environmental-public-interest-litigation-of-air-pollution-20160905 (in Chinese).

[68] According to our empirical research, only one civil PIL case on air pollution was filed by an individual in 2017: see *冯宝福侵权责任纠纷案* [*Feng Baofu Tort Responsibility Dispute*], filed on 8 Dec. 2017 and closed on 20 Mar. 2018, available at: http://wenshu.court.gov.cn/content/content?DocID=3b634672-2eb9-435f-b9e5-a8af0091edac&KeyWord=%E5%86%AF%E5%AE%9D%E7%A6%8F (in Chinese).

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action, one case concerns vehicle emissions,[69] whereas the remaining 15 cases relate to air pollution caused by excessive industrial emissions, for which the respective emitters had already been found in breach of regulation by the local environmental protection authorities. As it is difficult to obtain evidence, and since the appraisal of harm caused by air pollution is both costly and time consuming,[70] trials usually last for years. The first case in Hebei Province was filed in 2016, and the final judicial decision was given two years later in 2018.[71]

In 2018, a major new trend emerged with Chinese public prosecutors stepping forward as the leading plaintiff in PIL air pollution cases. According to the newly amended Chinese Civil Procedure Law,[72] public prosecutors are allowed to file tort-based lawsuits against polluters who compromise public interests related to environmental protection. The first tort-based PIL on air pollution brought by public prosecutors against a polluting entity was filed in Beijing on 8 May 2018.[73] The court gave its decision in favour of the plaintiff less than a month later, on 5 June 2018, World Earth Day. Proceedings initiated by public prosecutors are obviously less protracted. In the Beijing case, the public prosecutor brought an action against a steel construction company for damage caused by the untreated discharge of volatile organic compounds produced during the paint-spraying process. Once again, it involved excessive emissions of air pollutants which had already been subject to administrative enforcement action.

4.2. *Important Legal Hurdles Overcome by Chinese Tort-Based PIL on Air Pollution*

Tort-based climate actions have not been successful to date. Across the globe, CCL raises several common challenges, such as justiciability (standing and the political question doctrine), and establishing causation, harm or injury. In the US, based on the displacement doctrine,[74] the Supreme Court excluded federal common law as a pathway for CCL in *American Electric Power Co.* v. *Connecticut* (*AEP*).[75] The Supreme Court held that 'the Clean Air Act and the EPA actions it authorizes displace any federal common law right to seek abatement of carbon-dioxide emissions from fossil-fuel fired

[69] See 中国绿发会起诉大众汽车机动车污染排放大气环境公益诉讼案 ['China Green Development Association Sues Volkswagen Motor Vehicles for Pollution and Emission of Atmospheric Environmental Public Interest Litigation'], *Kdnet*, 16 Dec. 2015, available at: https://club.kdnet.net/dispbbs.asp?id=11347468&boardid=1 (in Chinese).

[70] The appraisal system for environmental damage in China was established in 2017.

[71] See 河北省首例大气污染公益诉讼案宣判 ['The First Air Pollution Public Interest Litigation Case in Hebei Province Settled'], *people.cn*, 11 Apr. 2018, available at: http://legal.people.com.cn/n1/2018/0411/c42510-29918704.html (in Chinese).

[72] A new amendment to the Chinese Civil Procedure Law in 2017 at last crystallized the standing of both environmental NGOs and public prosecutors in tort-based PIL (Art. 55(2)); public prosecutors can bring a lawsuit in the absence of a petition by eligible environmental NGOs. The Civil Procedure Law also provides that public prosecutors can support environmental NGOs where the lawsuit is filed by the NGOs. In other words, although both public prosecutors and environmental NGOs have legal standing to bring tort-based PIL, the NGOs have priority.

[73] This case was decided on 5 June 2018: *Xinhua.net*, 7 Jun. 2018, available at: http://www.xinhuanet.com/legal/2018-06/07/c_1122948795.htm (in Chinese).

[74] Jaffe, n. 61 above, p. 1033.

[75] N. 6 above.

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power plants'.[76] In other jurisdictions, proving causation represents a major challenge in any litigation which seeks to hold particular emitters liable for adverse impacts of climate change.

If no special rules have yet been created by the courts in response to climate change issues in the context of contract-based CCL,[77] the following paragraphs will show that such rules have been creatively adopted in the field of air pollution PIL in order to facilitate an effective judicial response. The implementation of similar judicial strategies with respect to climate change would help to remove some of the key obstacles to CCL. More specifically, now that public prosecutors are entitled to initiate PIL in parallel with NGOs, and now that local governments can bring claims for compensation for ecological damage, the standing threshold could easily be overcome in the Chinese legal context. The hurdles in establishing causation could be lowered by the adoption of a 'burden-shifting' principle and reliance on administrative enforcement records, as has happened in air pollution cases. Similarly, as Chinese courts have embraced the concept of 'pure ecological damage' as well as the 'foreseeable harm' standard, and accept supporting evidence from government agencies in evaluating air pollution damage, these practices could be transferred and applied in potential future CCL.

Standing and justiciability

Two initial questions that courts in various jurisdictions encounter in CCL relate to standing and justiciability.[78] In the US, 'to demonstrate standing, a litigant must show that it has suffered a concrete and particularized injury that is either actual or imminent, that the injury is fairly traceable to the defendant, and that a favorable decision will likely redress that injury'.[79] In the field of CCL, the justification of injury, causation, and redressability is obviously a big challenge for petitioners who target 'carbon majors' directly.[80] Secondly, even if petitioners successfully cross the hurdle of standing, the political question doctrine and implied pre-emption and displacement[81] lie ahead, questioning the justiciability of the case.[82] While the US is atypically restrictive in this field, in other jurisdictions (such as Germany and India)[83] the standing of plaintiffs has not been raised as a major obstacle for tort-based CCL.

In the legal context of China, if the separation or balance of powers is not an issue for Chinese courts, the standing threshold still represents an important procedural barrier

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76 H.M. Osofsky, 'Litigation's Role in the Path of U.S. Federal Climate Change Regulation: Implications of AEP v. Connecticut' (2012) 46(2) *Valparaiso University Law Review*, pp. 447–57, at 452.

77 This is also the case with CCL in the US: Markell & Ruhl, n. 2 above, p. 77.

78 UNEP, n. 12 above, p. 27.

79 See *Massachusetts* v. *EPA*, n. 5 above.

80 See *People of the State of California* v. *General Motors Corporation et al.*, No. 1:2014cv07787-Document 64 (SDNY 2014); see also Ganguly, Setzer & Heyvaert, n. 40 above.

81 Thorpe, n. 61 above, p. 103; see also Benjamin & Kysar, n. 13 above, p. 355.

82 H.M. Osofsky & J. Peel, 'Litigation's Regulatory Pathways and the Administrative State: Lessons from U.S. and Australian Climate Change Governance' (2014) 25(207) *Georgetown International Environmental Law Review*, pp. 207–59, at 224.

83 E.g., *Gbemre* v. *Shell Petroleum Development Company of Nigeria Ltd* (2005) AHRLR 151 (NgHC 2005).

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for claimants of environmental damage caused by pollution or climate change. However, thanks to the establishment of the PIL system, the standing question has been successfully resolved in China. PIL was not formally permitted until 2015 in the country.[84] Article 58 of the new Environmental Protection Law entitles Chinese NGOs to initiate legal proceedings against polluters on behalf of the public interest, even if they do not have a direct interest in the lawsuit. Based on the legal criteria set up for eligible NGOs, an estimated 700 Chinese NGOs may bring lawsuits against polluters on behalf of the public interest. Between January 2015 and June 2016, Chinese courts heard 116 cases, made up of 104 civil cases and 12 administrative cases of PIL.[85]

The second group of potential plaintiffs against polluters are Chinese public prosecutors. According to the amendment to the Civil Procedure Law, in the absence of eligible environmental NGOs, prosecutors are allowed to file civil lawsuits against any activity that compromises public rights and interests in cases related to the protection of the environment and natural resources, as well as to food and drug safety.[86] Our empirical study based on keyword searches in Chinese Judgments Online shows that 80% of plaintiffs in tort-based PIL on air pollution are environmental NGOs, while prosecutors are more active in administrative actions. Environmental NGOs evidently are playing a central role in carrying out civil PIL on air pollution.

Other potential plaintiffs in PIL related to air pollution, as well as to climate change, in China are provincial governments and their environment-related agencies. A pilot project was initiated in 2015 to authorize 13 local governments to bring lawsuits against polluters.[87] In December 2017, the State Council officially initiated a nationwide reform whereby, as of 2018, polluters will be required either to remedy any environmental damage they have caused or pay compensation. This nationwide expansion of the pilot is the first step in a more long-term plan to adopt legislation on compensation for ecological damage.[88] In the Plan on the Reform of Ecological Damage Compensation (the Plan),[89] the State Council authorized provincial and municipal governments to act as plaintiffs in claims for compensation for ecological environmental damage in their respective administrative areas. 'Ecological damage' is defined in the Plan as 'adverse changes in environmental factors such as atmosphere, surface water, groundwater, soil, forest and other biological factors, such as plant, animal and

[84] *最高人民法院关于适用"中华人民共和国民事诉讼法"的解释* [*Interpretation of the Supreme People's Court on the Application of the Civil Procedure Law of the People's Republic of China*] (effective 4 Feb. 2015). The SPC's judicial interpretations have binding force by virtue of the application of Art. 104 of the Legislation Law (revised 2015).

[85] See *China Environmental Resources Trial (White Paper)* n. 18 above, p. 15.

[86] Art. 55 of the Civil Procedure Law on PILs issued by qualified relevant agencies and social organizations.

[87] See 国务院生态环境损害赔偿制度改革试点方案 [Chinese State Council, 'Pilot Program for Reform of Ecological Environment Damage Compensation System'] 3 Dec. 2015, available at: http://www.gov.cn/zhengce/2017-12/17/content_5247952.htm (in Chinese).

[88] The State Council of the PRC, 'China to Expand Pilot Reform in Ecological Damage Compensation', *Xinhua.net*, 17 Dec. 2017, available at: http://english.gov.cn/policies/latest_releases/2017/12/17/content_281475980133814.htm.

[89] See 生态环境损害赔偿制度改革方案 ['Ecological Environment Damage Compensation System Reform Plan'], 18 Dec. 2017, available at: http://www.gov.cn/zhengce/2017-12/17/content_5247952.htm (in Chinese).

micro-organism, and the degradation of ecosystem function caused by the environmental pollution or ecological destruction'. Within this broad definition, air pollution and climate change could be interpreted as an 'adverse change in atmosphere' caused by the 'acts of polluting the environment or destroying the ecological system'.[90]

In August 2018, Chinese judges decided the first PIL case initiated by a local government claiming compensation for ecological damage. It was brought by the Government of Jiangsu Province against a local company which had illegally dumped toxic industrial waste in the local river, causing severe water pollution.[91] The court supported the plaintiff's claim and confirmed that the defendant is required to compensate for the damage to the environment. If motivated, local governments therefore could also bring tort-based Chinese CCL and hold emitters responsible for climate-related damage.

Causation

The second major barrier to successful tort-based CCL is the need to establish a causal relationship between climate change and the particular GHG emissions. Because of the globally dispersed and cumulative nature of such emissions, it is impossible to attribute any particular climate-related harm to any particular source of emissions. In *Lliuya* v. *RWE AG*,[92] a Peruvian farmer brought an action in a German court against a German utility. Lliuya sought damages to offset the costs of protecting his town from melting glaciers, for which he alleged RWE was partly responsible. The German court dismissed Lliuya's claim on the ground of failing to provide evidence of causation.[93] The court found that no 'linear causal chain' linked the alleged damage and RWE's emissions. In *Comer* v. *Murphy Oil USA Inc.*,[94] the court rejected the case because the plaintiffs could not establish that their injuries were properly traceable to the companies' GHG emissions. Recent advancements in 'extreme weather attribution science', which shift 'understanding of what weather is expected and, relevantly for

[90] It represents a much broader definition, compared with the definition of 'air pollution' proposed by the Chinese Law on the Prevention and Control of Atmospheric Pollution (revised in 2015), according to which '[i]n order to prevent and control air pollution … the synergistic control of particulate matter, sulfur dioxide, nitrogen oxides, volatile organic compounds, ammonia and other atmospheric pollutants and GHGs should be carried out' (Art. 2). Chinese air legislators choose to follow the 'list method', which is less flexible yet more clear and enforceable. Thus, it explicitly excludes GHGs from the list of pollutants. In this context, while PIL cases on air pollution are emerging in China, the emission of CO_2 and the emission of other air pollutants are nonetheless regulated differently, which hinders the immediate emergence of PIL on climate change.

[91] See 赔付 5482 万！全国首例政府诉企业环境损害赔偿案宣判 ['54.82 Million! First Ecological Damage Compensational Case Was Closed'], *Chinacourt*, 27 Aug. 2018, available at: https://www.chinacourt.org/article/detail/2018/08/id/3473951.shtml (in Chinese).

[92] *Lliuya* v. *RWE AG*, 2015 Civil Case No. 2 O 285/15, Essen Regional Court (Germany), available at: http://climatecasechart.com/non-us-case/lliuya-v-rwe-ag.

[93] This judgment was overruled on appeal in Nov. 2017. The *Oberlandesgerichsthof* (Higher District Court) of Hamm determined that the case could go forward to the evidentiary stage and the appeal is still pending. See also Ganguly, Setzer & Heyvaert, n. 40 above.

[94] *Comer and Others* v. *Murphy Oil USA Inc. and Others*, No. 1:05 CV-436-LG-RHW, 2007 WL 6942285 (S.D. Miss. 30 Aug. 2007); rev'd, 585 F.3d 855 (5th Cir. 2009); vacated and rehearing *en banc* granted, 598 F.3d 208 (5th Cir. 2010); appeal dismissed, 607 F.3d 1049 (5th Cir. 2010) (declining to reinstate the panel opinion).

law, foreseeable',[95] may help to reduce the obstacles to proving causation. Despite this, as general acceptance by the courts of this evidence is not obvious at present, the prospects for future plaintiffs to meet the causation hurdle remain challenging.

Air pollution cases face similar issues. Air pollutants discharged by certain emitters may affect the regional air quality along with the flowing air. It is thus difficult to prove the causal relationship between a particular emission and pollution damage. However, with the recent emergence of Chinese PIL on air pollution, Chinese courts easily recognize the existence of a causal relationship between emissions and their adverse effect on the environment and public health, especially if non-compliance with environmental regulations has been established.[96] These developments are primarily a consequence of the application of the 'burden-shifting doctrine' to the establishment of causation and the heavy reliance of the courts on evaluation reports. In the next paragraph, the approach of Chinese courts to questions of causation will be explored. The relation between regulatory non-compliance and the establishment of environmental harm will be analyzed in the following section on injury and harm.

The 'burden-shifting' doctrine was first provided for in the Chinese Tort Liability Law (TLL) in 2009, according to which the burden of proof shifts to the defendant, who has to prove the absence of a causal relationship in environmental tort disputes. On 1 June 2015, to clarify how relevant provisions of the TLL could apply in judicial practice, the SPC of China issued the 'Interpretation on Several Questions concerning Applicable Law in the Adjudication of Environmental Tort Liability Dispute Cases' (Environmental Tort Interpretation (ETI)). The ETI took one step further by specifying that the tort claimant should establish the 'relatedness' (关联性) rather than the 'causality' between the emissions and the pollution impact in issue, which clearly dilutes the burden of proof for environmental tort claimants.[97] It involves an initial 'light touch' burden of proof to establish relatedness. If the claimant succeeds, the defendant, in turn, must provide evidence to prove that there is no causal relationship between the polluting behaviour and the damage.[98] If the defendant fails to show the absence of a causal relationship between the pollutant discharge and the consequent harm, and unless circumstances of mitigation or exemption from liability apply, the defendant

[95] E.g., the use of attribution science in the Carbon Majors Petition to the Human Rights Commission in the Philippines: see S. Marjanac & L. Patton, 'Extreme Weather Event Attribution Science and Climate Change Litigation: An Essential Step in the Causal Chain?' (2018) 36(3) *Journal of Energy & Natural Resources Law*, pp. 265–98.

[96] N. 67 above.

[97] 张新宝等，扩张与强化:环境侵权责任的综合适用 [X. Zhang et al, 'Expansion and Strengthening: Comprehensive Application of Environmental Tort Liability'] (2014) 3 *中国社会科学* [*Social Sciences in China*], pp. 125–41, at 127.

[98] What is more, according to Art. 7 ETI, in order to prove the absence of a causal relationship, the defendant has to provide evidence to establish one of the following facts: (i) the pollutant discharged would not cause the damage; (ii) the pollutant discharged, which may cause the damage, has not reached the place where the damage occurred; (iii) the damage occurred prior to the discharge of the pollutant; (iv) other cases where there is no causal relationship between the pollution behaviour and the damage can be identified: see 最高人民法院关于审理环境侵权责任纠纷案件适用法律若干问题的解释 [The Supreme People's Court Interpretation on Several Questions Concerning Applicable Law in the Adjudication of Environmental Tort Liability Dispute Cases], promulgated on 1 June 2015, available at: http://www.court.gov.cn/fabu-xiangqing-14615.html (in Chinese).

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is held responsible. However, our analysis of relevant PIL cases shows that there is a large gap between judicial interpretation and legislation that endorses the shifting of the burden of proof and the implementation of this principle in judicial practice.[99] This is partly because of the lack of clarification of the criteria for 'relatedness' in the ETI and also on account of the heavy reliance of Chinese courts on third-party evaluation reports.

Although the 'burden-shifting' doctrine has been assured by law and judicial interpretation, Chinese judges, faced with scientific uncertainty with regard to pollution, would still require the plaintiff to bear initial liability to introduce evidence to the court to establish 'relatedness'. However, as the ETI has not specified the criteria for 'relatedness', this initial burden of proof in practice could be much heavier than is stipulated by law. Among the evidence endorsed by the courts in air pollution PIL, evaluation reports are the most common.[100] Since a certified report often determines the judicial decision, the plaintiff who has failed to provide an evaluation report may bear the risk of losing the action.[101] This heavy reliance of Chinese courts on costly scientific reports undermines the 'burden-shifting' doctrine and raises questions in relation to the independence of third-party evaluation institutions. In 2016, the Chinese Ministry of Justice and the former Ministry of Environmental Protection jointly set up a certification system for 'judicial appraisal institutions for environmental damage'.[102] This places third-party evaluation institutions under the aegis of the Chinese government, which may therefore add a governmental influence in the future.

Injury and harm

In some legal regimes, such as in the US, injury represents a threshold question for a petitioner's standing before the court.[103] Under the Chinese PIL system, the petitioner

[99] Chinese courts have duly applied this 'burden-shifting' rule in some tort-based air pollution PIL: see, e.g., 29 Dec. 2015, *All-China Environment Federation* v. *Dezhou Jinhua Corporation*, No. 01 Civil, 2015 in Dezhou, Shandong province; '[W]hile the general trend suggests that Chinese judges have increasingly referred to the relevant judicial interpretations and legal provisions that shift the burden of proof in adjudicating environmental torts, in most cases these interpretations and provisions were not correctly enforced. When it comes to proving causation between the pollution and the harm, the plaintiff still bears the initial liability to introduce evidence to the judges. Only then were the judges likely to shift the burden of proof for lack of causation to the defendant': F. Yang, T. Zhang & H. Zhang, 'Adjudicating Environmental Tort Cases in China: Burden of Proof, Causation, and Insights from 513 Court Decisions' (2018) 21(2) *Asia Pacific Journal of Environmental Law*, pp. 171–89, at 188.

[100] Ibid. See also e.g., 时军、黄任生一审民事判决书 [9 Feb. 2018, *Fuzhou Procuratorate* v. *J. Shi & R. Huang*, Case No. 10 civil 142, (2017)] in Jiangxi Fuzhou Middle Court; 中华环境保护基金会与中国石化集团南京化学工业有限公司一审民事调解书 [16 Dec. 2016, *China Environmental Protection Foundation* v. *Nanjing Chemical Industry Company*, Case No. 2048 Civil 01, (2016) in Jaingsu High Court.

[101] Zhang et al., n. 97 above, p. 127.

[102] Ministry of Justice and Ministry of Environmental Protection, 'Procedures for the Registration and Accreditation of Environmental Damage Judicial Appraisal Institutions' and 'Measures on the Registration of Experts on the Assessment of Environmental Damage Judicial Appraisal Institutions' (specifying the criteria to be met by a qualified judicial appraisal institution and the process for accreditation of such institutions).

[103] For example, to ensure that the plaintiff has a genuine interest and a stake in a case, US courts require the plaintiff to be the one who has suffered 'an injury in fact' – i.e., (a) concrete and particularized, and (b) actual or imminent, not conjectural or hypothetical: see B. Mank, 'Standing and Global Warming:

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no longer has to prove a particular interest in pollution (or in climate change) to be regarded as a qualified plaintiff. However, the existence of harm still plays an important role in determining compensation, and the plaintiff bears the burden of proof. In this respect, three favourable judicial rules have been developed in the practice of Chinese courts.

Firstly, the court accepts that environmental damage should be compensated. Both air pollution and climate change could cause indirect damage, via the medium of environmental elements, to human health and personal property.[104] In Chinese PIL on air pollution, the claimant is not required to prove damage to human health or personal property, since the direct impact of pollution on the ambient air *per se* is accepted by courts as a justiciable injury for a remedy.[105]

Secondly, 'injury-in-fact' is replaced by 'foreseeable harm'. According to Articles 1 and 8 of the Judicial Interpretation on Environmental Civil Public Interest Litigation (Judicial Interpretation on PIEL),[106] issued on 6 January 2015 by the Chinese SPC, the plaintiff is under an obligation to provide preliminary evidence 'proving that the act of the defendant has harmed the social public interest or bears a major risk of harming the social public interest'.[107] Including 'major risk' is particularly auspicious for tort-based PIL on air pollution and, potentially, climate change, in that it lowers the requirements for harm from injury-in-fact to foreseeable harm.[108] The burden of proof of harm caused by particular GHG emissions, which is usually considered the key barrier to environmental compensational claims, is significantly reduced as a consequence.

Thirdly, environmental administrative authorities can provide supporting evidence. Under the 'government-led' pathway, administrative authorities could intervene and provide important evidence in support for petitioners. According to the Judicial Interpretation on PIEL, this usually includes historical administrative penalty decisions issued by environmental protection authorities, and monitoring reports provided by environmental monitoring centres. At times, environmental protection authorities even issue special statements to prove the existence of polluting activities.

Is Injury to All Injury to None?' (2015) 35(1) *Environmental Law*, pp. 1–81; see also Markell & Ruhl, n. 2 above, p. 77.

104 Petitioners in tort-based CCL usually take their stand upon the property damage or injury to human health: see *Native Village of Kivalina* v. *Exxon Mobil Corp*., 663 F. Supp. 2d 863 (ND Cal.), appeal docketed, No. 09-17490 (9th Cir. 5 Nov 2009); see also *Comer* v. *Murphy Oil USA*, *Inc*., n. 94 above.

105 According to the Judicial Interpretation on PIEL (Art. 1), the targeted activities of Chinese environmental PIL involve environmental pollution or destruction of the ecological system.

106 'The Interpretation of the Supreme People's Court on Several Issues concerning the Application of Law in Environmental Civil Public Interest Litigation Cases' (Judicial Interpretation on PIEL), 6 Jan. 2015 (providing guidelines for trial of environmental PIL. This interpretation came one week after China's amended Environmental Protection Law entered into force).

107 It is worth noting that the 'burden-shifting' doctrine applies also in tort-based environmental PIL. According to the ETI, the claimant has an initial light-touch burden of proof in order to establish relatedness and, if successful, the burden of proof to establish the absence of causation moves to the defendant.

108 See, e.g., *河南省企业社会责任促进中心与洛阳市吉利区辉鹏养殖专业合作社、关同高环境污染责任纠纷* [9 Dec. 2016, *Corporate Social Responsibility of Henan Province* v. *T. Guan et al*., Case No. 154 civil jurisdiction, (2016)] in Henan Luoyang Middle Court.

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The intervention of Chinese environmental agencies in PIL cases on air pollution usually starts at an even earlier stage – namely, the identification of potential defendants. In this respect, it is obviously much easier to prove the existence of harmful activities if non-compliance with environmental regulations has been established. This explains why, in judicial practice, PIL plaintiffs typically target emitters who have failed to take the required corrective action after repeated administrative sanctions.[109] From this perspective, PIL could even be regarded as a 'penalty upgrade' imposed by the Chinese courts, which are under the influence of the government. It is worth noting that, according to Article 1 ETI,[110] plaintiffs can also pursue cases against emitters and show proof of injury through means other than by showing that the defendant is in breach of environmental regulations. However, without supporting evidence from environmental administrative authorities, it is extremely difficult for a plaintiff to establish the existence of a 'harm' or 'major risk' of harm to environmental public interests. As a result, no successful PIL case has been identified in the China Judgments Online database.

4.3. *PIL on Air Pollution: A Substitute or Gateway for CCL*

Considering the similarities between climate change and air pollution, as well as the legal obstacles overcome by air pollution PIL in China, this type of litigation could arguably become a substitute or a gateway for Chinese CCL.

Air pollution PIL as a substitute for CCL

Given the close relation between climate change and air pollution, current Chinese PIL on air pollution could almost serve the same ends as CCL, thus constituting a substitute for CCL. Although climate change and air pollution are different issues, they share common features.[111] Firstly, the potential defendants in air pollution PIL and CCL overlap. The extraction and burning of fossil fuels are the main sources of emissions of both CO_2 and other major air pollutants. Other industries that discharge air pollutants usually also emit GHGs. Secondly, air pollution does not only cause damage to public health, but also raises public awareness on climate change. China has not defined CO_2 as an air pollutant, yet some air pollutants such as black carbon and ground-level ozone (O_3) are considered GHGs (short-lived climate pollutants).[112] Furthermore,

[109] Yang and co-authors indicate that the 'compliance reports' are 'the second highest form of evidence used to prove causation': Yang, Zhang & Zhang, n. 99 above, p. 184.

[110] ETI, Art. 1: 'For damage caused by environmental pollution, a polluter shall bear tort liabilities regardless of fault. If the polluter claims no liability on the ground that the discharge of pollutants complies with national or local pollutant discharge standards, the people's court shall not support such a claim' (unofficial translation).

[111] A.M. Fiore, V. Naik & E.M. Leibensperger, 'Air Quality and Climate Connections' (2016) 65(6) *Journal of the Air & Waste Management Association*, pp. 645–85.

[112] Some researchers believe that '[r]educing sulfates and some other light-scattering particles that serve to cool the earth surface actually "unmasks" warming caused by carbon dioxide (CO_2) and other GHGs. Continued reductions in sulfur oxide (SOx) emissions to meet air quality goals will increase near-term warming caused by existing levels of GHG': M.T. Kleinman et al., 'Connecting Air Quality and Climate Change' (2015) 65(11) *Journal of the Air & Waste Management Association*, pp. 1283–91.

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many air pollutants which are not defined as GHGs also contribute to climate change by affecting the amount of incoming sunlight that is reflected or absorbed by the atmosphere.[113] Therefore, the fight against air pollution could also contribute to the protection of public climate interests. In this respect, PIL involving air pollution to some extent could be a substitute for CCL.[114]

However, the synchronization effect of air pollution and GHG control is not absolute. Firstly, based on atmospheric environmental science and considering the cloud condensation effect of aerosols, reducing emissions of air pollutants does not necessarily slow down global climate warming, but may even accelerate it. Secondly, from the perspective of environmental policy, some air quality improvement measures could be climate-unfriendly. For example, flue gas desulphurization technology, which was widely adopted and promoted by the Chinese government, could discharge more CO_2.[115] Therefore, if GHG and air pollutant emissions control strategies are not coordinated, the emissions reduction promoted by air pollution PIL would not necessarily result in a decrease in GHG emissions.

Air pollution PIL as a gateway to CCL

Alternatively, if GHGs are ultimately included in the list of air pollutants, Chinese PIL related to air pollution could become a gateway for potential CCL.

The number of Chinese PIL cases concerning air pollution has increased noticeably since 2016, and in most of these cases public prosecutor or NGO plaintiffs have prevailed. This implies that the preconditions for such CCL challenges are already in place. Based on the 'burden-shifting doctrine', the courts are tending to recognize the causal link between particular emissions and injuries, and decide in favour of the plaintiff.

However, according to our empirical study of judicial cases, the plaintiff is usually required to show that the defendant has acted in breach of regulation and provide evaluation reports prepared by a third-party institution certified by the government. Otherwise, there is virtually no chance of a plaintiff being successful in an air pollution case. This means that tort-based air pollution PIL functions as an additional administrative penalty rather than an alternative pathway to pollution regulation.[116] As current

[113] Ibid. Fine particle types include both cooling (most organics, nitrates) and warming (black carbon, some organics) components.

[114] There may also be trade-offs in reducing GHGs. The climate policies designed can result in higher emissions of particulate matter. Ignoring the interactions and interdependencies of the various measures could even lead to counter-productive outcomes of strategies: see European Consortium for Modelling of Air Pollution and Climate Strategies, 'Cost Effective Approaches for Reducing Air Pollution while Minimizing Climate Change', available at: http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=home.showFile&rep=file&fil=LIFE06_ENV_PREP_A_000006_LAYMAN.pdf.

[115] J. Wang et al., 'Implementing Climate-friendly Strategy for Air Pollution Prevention and Control' (2010) 10 *China Soft Science*, pp. 28–36, at 29.

[116] According to the Judicial Interpretation on PIEL (Art. 12), Chinese courts are even under an obligation to notify the environmental agency within 15 days of filing a PIL case. The environmental agency will then intervene to rectify the targeted emissions activities. In two tort-based air pollution PIL cases, the plaintiffs eventually withdrew the lawsuit, as under the supervision of the local environmental

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Chinese regulations for GHG emissions function generally on the basis of voluntary reduction mechanisms, this subordinate role played by PIL will severely impact upon the scope and potential for tort-based CCL. This does not mean that the prospects for tort-based CCL are necessarily doomed, but rather that the future scope for tort-based CCL will hinge completely on how strict climate change regulation becomes, and how proactive Chinese authorities are in its enforcement. If GHGs could be recognized as air pollutants, and if climate change regulation tightens, current PIL on air pollution could eventually become a genuine gateway to CCL in China.

It should be acknowledged that, given the huge costs involved, the competent authorities are unlikely to include GHGs on the list of air pollutants in the foreseeable future. However, changing institutional conditions are favourable for the emergence of coordinated control.

For a number of historic reasons, response strategies to air pollution and climate change are often addressed by different policy authorities. In China, CO_2 emissions fell under the administration of the National Development and Reform Committee (NDRC),[117] the most powerful economy-oriented administrative agency in the Chinese government. Air pollution falls within the remit of the former Ministry of Environmental Protection. During the 13th National People's Congress in early 2018, China formed a new environmental agency, the Ministry of Ecology and Environment (MEE). As part of China's historical institutional reform, the establishment of MEE is hailed as a major step towards protecting the environment and it will help in preventing the systemic destruction of China's ecology. Although thus far untested, it is considered to have sweeping powers to curb pollution.[118] With all the powers of its predecessor (the Ministry of Environmental Protection) intact, the newly formed MEE also takes over major responsibilities for environmental protection, including climate change and emissions reduction policies. The Chinese environmental protection authority finally has full competence over both air pollution climate change issues.[119]

On the other hand, if air pollution is a 'low hanging fruit' that has already been picked, climate change action will inevitably put higher demands on economic

agency, the emitters had corrected its illegal emissions: See, e.g., *中国生物多样性保护与绿色发展基金会诉被告马鞍山澳新环保科技有限公司大气污染责任纠纷* [18 Apr. 2018, *China Biodiversity Conservation and Green Development Foundation* v. *Ma'anshan Aoxin Environmental Technology Co. Ltd*, Case No.136 civil 05, (2017) in Anhui High Court. See also *中华环境保护基金会与中国石油天然气股份有限公司大气污染责任纠纷一审民事调解书* [18 Dec. 2016, *China Environmental Protection Foundation* v. *PetroChina Co. Ltd*] Case No. 267 civil 02, (2016)] in Liaoning High Court.

[117] Before that, the response to climate change was merely considered as a scientific question, as the main competent administrative authority related to climate change was the Ministry of Science and Technology: see P. Wang, L. Liu & T. Wu, 'A Review of China's Climate Governance: State, Market and Civil Society' (2018) 18(5) *Climate Policy*, pp. 664–79.

[118] See "环境保护"杂志编辑部：组建生态环境部:"大部制"带来"大环保" [Environmental Protection Magazine Editorial Department, 'The Establishment of the Ministry of Ecology and Environment: "Major System" Brings "Great Environmental Protection"'] (2018) 46 *环境保护* [*Environmental Protection*], pp. 2–5, at 2.

[119] *环保部部长：生态环境部将实现"五个打通"* [Minister of Environmental Protection, 'The Ministry of Ecology and Environment Will Realize "Five Open"'], *Chinanews.cn*, 17 Mar. 2018, available at: http://www.chinanews.com/gn/2018/03-17/8470030.shtml (in Chinese).

resources, especially when resources are strained by an economic crisis. Will China finally open the judicial channel for climate justice and allow Chinese civil society to push for greater improvements? Any developments in that direction still remain closely tied to the 'government-led regulatory approach'.

5. CONCLUSION

The global trend towards CCL could provide a mechanism to urge governments and enterprises to consider the public interest in climate change, and accelerate policy change and industrial restructuring. While the dominant legal scholarship in the field of CCL seeks to assess its impact on the regulatory state and its role played in the formation of climate change policy and public awareness,[120] this article explores another dimension of CCL as a 'regulatory pathway' and investigates its scope in the specific context of China, an authoritarian country with civil law traditions.

An empirical analysis of 177 Chinese CCL cases reveals that, so far, China has not seen a single CCL case in the traditional sense. The so-called Chinese CCL cases are mainly civil actions related to contract disputes between energy enterprises or are relevant to such enterprises. China apparently adopts a government-led stance in response to climate change, with the courts having a secondary and supporting role. Although no specific case law on climate change has yet been issued, the high success rate of these cases nevertheless demonstrates the potential for Chinese environmental policy to condition judicial behaviour, often in unspectacular yet deliberate ways.

Considering the limited power of Chinese courts and the strength of the Chinese government, the prospects for successful CCL against the government are very remote.[121] Yet, tort-based CCL, targeting carbon emitters directly, may be a possibility in China. The current Chinese PIL on air pollution offers a perfect example of how tort-based strategies can be successful if government policies promote better air pollution control. Our study reveals that, under the guidance of such policies and with the support of administrative environmental agencies, Chinese courts have adopted or even created exceptional rules for the specific purpose of curbing air pollution. Compared with contract-based CCL, air pollution PIL could offer either a substitute for, or even a gateway to an expanded range of CCL in China, particularly in light of the recent consolidation of air pollution and climate change competencies within the newly established MEE.

[120] M. Wilensky, 'Climate Change in the Courts: An Assessment of Non-U.S. Climate Litigation' (2015) 26(1) *Duke Environmental Law & Policy Forum*, pp. 131–79.

[121] Ibid.

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