



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

No visible means of legal support

Citation for published version:

Ghaleigh, NS 2018, No visible means of legal support: China's CCS regime. in I Havercroft, R Macrory & R Stewart (eds), Carbon Capture and Storage: Emerging Legal and Regulatory Issues. 2nd edn, Hart Publishing. DOI: 20.500.11820/989fb069-21a9-452f-a701-97ea68f9d1b8

Digital Object Identifier (DOI):

[20.500.11820/989fb069-21a9-452f-a701-97ea68f9d1b8](https://doi.org/20.500.11820/989fb069-21a9-452f-a701-97ea68f9d1b8)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Peer reviewed version

Published In:

Carbon Capture and Storage

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.



No Visible Means of Legal Support: China's CCS Regime^{*}

Navraj Singh Ghaleigh
Edinburgh Law School
n.ghaleigh@ed.ac.uk

1. Introduction: Wither Law?	1
2. Environmental Law in China	3
a) Basics of the Chinese Legal System	3
b) Environmental Law Making, and Enforcement.....	6
c) The Turn to the Climate	8
3. CCS and China	11
a) Policy and Pilots	11
b) The Adequacy of Amending Extant Regimes	12
c) State Owned Enterprises.....	14
4. The Problem of Law and the Environment in China	16
a) Legal Codes, Hostility to	16
b) Administrative Measures, and the Rule of Law	17
c) Enforcement.....	18
d) Corruption.....	21
5. Conclusion	22

* Sincere thanks are owed to the editors, and especially Ms Sonja Karikumpu for her superb research assistance.

1. Introduction: Wither Law?

In the space of a few short years, the People's Republic of China has transformed itself from villain to hero, the world's leading hope for avoiding anthropogenic climactic disaster. Notwithstanding its position as the world's leading emitter – its emissions being roughly double that of the second placed USA¹ – China's embrace of the Paris Agreement, reaffirmed in the light of Trump Presidency;² its pilot emissions trading schemes; and a vast renewables push have placed it in a position of great global moment. Against the backdrop of European Union peripherality and troubling signals from the post-Obama USA, there is a great burden on China to demonstrate leadership in climate action.

Seen in this light, carbon capture and storage serves as a particular instance of the general phenomenon of China as at the centre of climate change debates. China's energy system alone accounts for nearly half of the world's existing coal-fired power plants, and its first NDC plans for its emissions to peak only around 2030, well past the date by which 1.5C degree warming will have been reached. Notwithstanding this framing, the awe-inspiring numbers of China's climate challenge can be cast in an optimistic light. Retrofitting CCS to the Chinese coal power assets will contribute to the reversal of the “lock-in’ of emissions”, as well as easing the domestic economic and social costs of premature closure of the fleet.³ From a wider perspective, if China were to deploy CCS, even if slowly at first, such is its scale and networked system of governance that more rapid diffusion could push CCS past thresholds of cost, technology, social acceptance, governance etc, with the effect that a tipping point is reached.⁴ As such, the scale of China's climate change challenges contains within it the possibility to transform the demonstration and deployment of CCS globally.

What though is the role of law in this process? China's extant CCS regulatory regime is profoundly underdeveloped.⁵ As such, this chapter places that regime, such as it is, in the context of domestic environmental law but also larger debates about understanding the nature of law in legal systems which, unlike those in the West, do

¹ As of 2015, China's emissions (10,357MtCO₂) were nearly double of the United States (5,414MtCO₂), the second largest emitter in the world, and over ¼ of the global total (36,262MtCO₂). See TA Boden, G Marland, and RJ Andres, 'Global, Regional, and National Fossil-Fuel CO₂ Emissions: Carbon Dioxide Information Analysis Center (CDIAC), Oak Ridge National Laboratory', accessed via the Tyndall Centre's Global Carbon Atlas, at <<http://www.globalcarbonatlas.org/>> (accessed 4 January 2017).

² Pilita Clark, 'China Pledges to Uphold Paris Climate Commitments' *Financial Times* (29 March 2017).

³ OECD/IEA, *20 Years of Carbon Capture and Storage: Accelerating Future Deployment* (Organisation for Economic Co-operation and Development 2016).

⁴ See generally, Geoffrey Heal and Howard Kunreuther, 'Tipping Climate Negotiations' in Robert W Hahn and Alistair Ulph (eds), *Climate Change and Common Sense: Essays in Honour of Tom Schelling* (OUP Oxford 2012).

⁵ Xu Zhaofeng and others, 'Guidelines for Safe and Effective Carbon Capture and Storage in China' (2011) 4 *Energy Procedia* 5966.

not give primacy to the professionalization of law. It will be argued that notwithstanding major efforts of legal reform (i.e. consistency of law, rights-based normativity, restructuring of the legal system)⁶ China's climate governance, legal norms and institutions contribute and safeguard only partially the proper future of Chinese CCS. Moreover, such is the character of the Chinese legal system, any role it does play bears little resemblance with governance regimes in other jurisdictions.

From the first, it should be noted that China current lacks a comprehensive legal regime for climate action. Surveys undertaken by non-lawyers such as the *Global Climate Legislation Study* make clear that there is no comprehensive climate change law in China.⁷ This is despite the pledge made in 2010 for such a legal regime, and the optimistic thought that "passage of the law is expected in 2015 or 2016"⁸ – the wait is ongoing. There is of course no denying that successive bureaucratic edicts from China's 11th Five-Year Plan (2006) onwards have promised economy-wide reductions in carbon intensity, which have been followed up by policies and measures to meet said targets. The powerful National Development and Reform Commission (NDRC – the leading economic planning unit of central government, dubbed the 'Little State Council') has developed a National Plan to Address Climate Change (2014-2020), and carbon pricing schemes and measures for energy demand and supply abound.⁹ All such policies, measures, and schemes have been formalized into China's NDC under the Paris Agreement.¹⁰ What many of these analyses fail to do however is to focus on the legal nature of the instruments in question. For example, the GLOBE study lists under "China: legislative portfolio" genuine legal measures such as the Renewable Energy Act (2006) and Energy Conservation Law (1997), along with the 12th Five-Year Plan for the Development of National Economy and Society (2011). Whereas China does indeed have a substantial body of environmental law properly so-called (discussed at XX below), the regulation of climate action is dominated by 'Plans', 'Strategies', and other measures of questionable legal provenance.

This deficiency extends to the regulation of CCS. China lacks both a dedicated CCS regulatory regime (on the EU model) and the necessary array of CCS-oriented provisions bolted onto existing schemes for environmental protection, geological storage etc, as seen in oil and gas legislation in Australia and Canada.¹¹ The

⁶ Chris Thornhill, *A Sociology of Transnational Constitutions: Social Foundations of the Post-National Legal Structure* (Cambridge University Press 2016) PAGE?.

⁷ M Nachmany and others, 'Climate Change Legislation in China', *The 2015 GLOBE Climate Legislation Study: A Review of Climate Change Legislation in 99 Countries* (GLOBE International and the Grantham Research Institute, London School of Economics 2015) 2.

⁸ *ibid.*

⁹ For surveys of general climate change measures, see generally Xi Wang and others, 'Research and Scholarship on Climate Change Law in Developing Countries' in Daniel A Farber and Marjan Peeters (eds), *Encyclopedia of Environmental Law: Climate Change Law*, vol 1 (Edward Elgar Publishing Ltd 2016); Alex L Wang, 'Climate Change Policy and Law in China' in Kevin R Gray, Cinnamon P Carlarne and Richard Tarasofsky (eds), *The Oxford Handbook of International Climate Change Law* (Oxford University Press 2016).

¹⁰ <http://www4.unfccc.int/ndcregistry/Pages/Home.aspx>

¹¹ Deborah Seligsohn and others, 'CCS in China: Toward an Environmental, Health, and Safety Regulatory Framework' [2010] WRI Issue Brief 6-7. See further the chapters by Gibbs (Australia) and Krupa (Canada) in this volume.

consequence of the legal lacunae in which CCS finds itself in China are two-fold. Firstly, the environmental regulation of CCS falls back onto the general environmental law governing environmental protection, EIAs, air pollution and so on. This is in itself hardly problematic. Other CCS regimes, including the EU's, make linkages to existing environmental laws such as environmental assessment and environmental liability.¹² CCS is after all one type of industrial project, which will fall within an extant legal structures relating to environmental protection, hazardous substances, planning and permitting, and project approval etc. In the case of China however, it is questionable whether the general environmental law is capable of bearing this burden efficaciously. Secondly, and relatedly, as others have noted, "CCS projects involve large investments and initially will most likely originate from the state-owned sector of the economy."¹³ The conflicts of interest that exist in the regulation Chinese State Owned Enterprises (SOEs) give ample doubts as to the effectiveness of this mode of governance, not least when the limitations of enforcement and other governance considerations are taken into account.

2. Environmental Law in China

a) Basics of the Chinese Legal System

Although China's legal system falls into the family of 'socialist law' in David's classical taxonomy, there are reasons to doubt that this is a helpful finding.¹⁴ As Mattei notes, this is a classification that is both Euro-American centric, and fails to account for the success of the Chinese political system and the influence of legal sinology.¹⁵ A more compelling approach he argues is one which takes into account and seeks to unearth 'hidden law', "the hidden assumptions of different legal systems."¹⁶ In order to better arrive at this deeper view, Mattei proposes his own, now famous, classification of global legal systems. Rather than relying on formal categories of legal systems (i.e. common law, civil law, socialist law...), Mattei's categorization revolves around "three patterns of social incentives (or social constraints) which are at play in all legal systems simultaneously."¹⁷ The categories of social incentives are the rule of professional law, the rule of political law, and the rule of traditional law. What varies among the legal systems of the world is the "quantity, acceptability, and most importantly, hegemony" of these patterns of social incentives. The application of this approach has the advantage of both being non-Western-centric, and also dynamic, responding to developments as they occur. There will of course be circumstances in which the distinctions between approaches, i.e. the rule of political

¹² See further the chapter by Velcova on the EU Directive in this volume

¹³ *ibid.* Citing Al-Juaied, M. and Witmore, A., 'Realistic Costs for Carbon Capture' (Belfer Center Harvard, 2009).

¹⁴ R David and C Jauffret Spinosi, *Les Grands Systemes de Droit Contemporains* (10th edn, 1992).

¹⁵ Ugo Mattei, 'Three Patterns of Law: Taxonomy and Change in the World's Legal System' (1997) 45 *The American Journal of Comparative Law* 5, 10.

¹⁶ *ibid.*, 13, citing Sacco.

¹⁷ *ibid.*, 16.

law and the rule of traditional law, will be difficult to parse, but this is no more than a proper recognition of the complexities of the task. In any event, Mattei's conclusion is that China's hegemonic legal approach is traditional, albeit with notable "characteristics of the rule of political law."^[43]¹⁸ For context, this is to be contrasted with Japan which although also classified as predominantly traditional, has professional law as its secondary pattern of social incentives.

It should be noted that Mattei's classification is not one that is routinely adopted by scholars working on China. A leading US textbook on Chinese law makes the wholly Eurocentric point that "China's legal system is largely a civil law system."¹⁹ This is of course a recognition that, like Japan's, it is a system that has drawn very heavily on the German legal system which has been grafted, far from unproblematically, onto Confucian systems of the state, authority and value.²⁰ Nonetheless, many of the abstract features identified by Mattei – of the interplay between traditional, politics, and professionalization – are vividly present in the actual law making processes of the PRC.

China's law-making process is governed by the Constitution (1954) and the Legislation Law (2000).²¹ Although law-making must respect concepts such as 'the socialist road', democratic dictatorship by the people, Marxism, Leninism, and thoughts of Mao Zedong among other, the Constitution vests all the political power in the national government.²² The highest legislative organ of the People's Republic of China is the National People's Congress (NPC), and its Standing Committee adopts national environmental laws.

The State Council is China's highest 'executive' and 'state administration' body, and oversees all the ministries and commissions.²³ Its functions include promulgating the regulations necessary to implement national laws passed by the NPC or its Standing Committee. The State Council is formally subordinate to the NPC but in reality operates relatively independently from it, and can create a bottleneck for laws waiting for implementing regulations.²⁴ Critically, it is constitutionally tasked to draw up China's Five Year Plans which is drafted by the National Development and Reform Commission (NDRC),²⁵ although its "broad themes and goals...are developed by the

¹⁸ *ibid.*

¹⁹ Daniel CK Chow, *The Legal System of the People's Republic of China* (3rd edn, West Academic Publishing 2015).

²⁰ PR Luney, 'Traditions and Foreign Influences: Systems of Law in China and Japan' (1989) 52 *Law and Contemporary Problems* 129.

²¹ Charles McElwee, *Environmental Law in China: Mitigating Risk and Ensuring Compliance* (Oxford University Press 2011) 44. See respectively, http://www.npc.gov.cn/englishnpc/Constitution/node_2825.htm and http://english1.english.gov.cn/laws/2005-08/20/content_29724.htm .

²² Articles 9, 22 and 26 of the Constitution.

²³ McElwee (n 13) 41.

²⁴ McElwee (n 13) 78 n4.

²⁵ The NDRC is "China's most important economic planning body", and is also in charge of China's response to climate change, is China's Designated National Authority under the Kyoto Protocol, and played a major role in drafting China's climate change "white paper" released in 2008 - *ibid.* 92-4.

Communist Party of China (CPC) Central Committee.”²⁶ The role of the Five Year Plans (FYP) is essential to note. These are the pivotal policy documents in China, declaring and setting the China’s economy policies, objectives, and long term direction. Where it is deemed necessary and appropriate, the Plans are supplemented by NPC legislation, and ministerial policy.²⁷

As regards environmental lawmaking specifically, the NPC has a number of special committees, one of which is the Environment and Natural Resources Protection Committee (ENRPC).²⁸ Similarly, the State Council has sub-units with cross-ministerial tasks, such as the Legislative Affairs Office that also has an Environmental Protection Department.²⁹ As environmental protection does not fall within exclusive competence of either the NPC or its Standing Committee, it can be legislated by the NPC and the State Council and its ministries.³⁰

For those who view ‘law’ through the lens of western conceptions of the rule of law (a rough approximation for Mattei’s rule of professional law), the Chinese approach bears only a slight resemblance to a system of generally applicable rules applied impartially, and enforceable via independent courts.³¹ Essential to note is the role of the Communist Party of China (CPC). Although it formally derives no power from the Constitution, and has only a limited role in the law-making process,³² it is the *de facto* highest power in the country. Its National Party Congress is charged with formulating the basic orientation of the Party, and the Politburo of its Central Committee determines all key policy decisions and appointments.³³ Furthermore, the Third Plenum of the Central Committee usually introduces the new Party leadership’s broad economic and political reforms.³⁴ A separate issue arises from the dispersal of legislative authority.³⁵ The “lines of authority” are often unclear, within consequent uncertainties over whether given entities are act within their vires.³⁶ Peerenboom describes the legislative processes as lacking in transparency, but also with a high degree of inconsistency between lower and superior legislation, as well as problems surrounding the publication and accessibility of laws.³⁷

²⁶ *ibid.* 72.

²⁷ Chow (n 18).

²⁸ McElwee (n 20) 35-6.

²⁹ *ibid.* 42.

³⁰ *ibid.* 45.

³¹ See generally, Jeremy Waldron, ‘The Rule of Law’ in Edward N Zalta (ed), *The Stanford Encyclopedia of Philosophy* (Fall 2016, Metaphysics Research Lab, Stanford University 2016).

³² RP Peerenboom, *China’s Long March toward Rule of Law* (Cambridge University Press 2002) 240.

³³ Colin Mackerras, Donald Hugh McMillen and Andrew Watson, *Dictionary of the Politics of the People’s Republic of China* (Routledge 1998) 66-8.

³⁴ “Introduction to China’s Plenary Sessions and the CPC Central Committee” *China Briefing* (November 11, 2013) <http://www.china-briefing.com/news/2013/11/11/introduction-to-chinas-plenary-sessions-and-the-cpc-central-committee.html>

³⁵ Peerenboom (n 31) 240.

³⁶ *ibid.* 241.

³⁷ *ibid.* 245.

b) Environmental Law Making, and Enforcement

In February 1978 the Chinese Constitution was amended to provide an explicit requirement of environmental protection – the current Article 26³⁸ – and shortly thereafter established an ideological basis for the State to fulfil its constitutional environmental obligations.³⁹ The development of modern Chinese environmental laws commenced in September 1979 with the introduction of the *Environmental Protection Law* of the People’s Republic of China.⁴⁰ Legislative development has been rapid thereafter, and according to Wang the *Environmental Protection Law* took precedence over other areas of law, such as economic construction.⁴¹ This is partly due to the increasingly serious environmental problems that the nation had faced since the late 1950s, which were exacerbated during the Cultural Revolution.⁴² In this formative period of the Republic, economic growth was prioritised over environmental protection, which were in turn marginalised.⁴³ An awareness on the part of the leadership of the public harm caused by industrialisation in the West and Japan was also a contributory factor in the formulation of the new regime.⁴⁴

In the same period, the Leading Group of Environmental Protection in the State Council (LGEPSC) prepared policy instructions for cadres⁴⁵ providing that the “elimination of pollution and protection of the environment were a part of building socialism and realising the four modernisations enacted by Deng Xiaoping.”⁴⁶ As McElwee demonstrates however, the effect of myriad mergers and administrative reforms of the LGEPSC, including renaming as the *Environmental Protection Bureau* and subsequently the *State Environmental Protection Administration* (SEPA), served weakened it and proved to be a setback for environmental protection.⁴⁷ Since 2008 however, SEPA was renamed the Ministry of Environmental Protection, and its

³⁸ “The state protects and improves the living environment and the ecological environment, and prevents and controls pollution and other public hazards. The state organizes and encourages afforestation and the protection of forests.” See generally, Canfa Wang, ‘The Rapid Development of Environmental Protection Law’ in Dingjian Cai and Chenguang Wang (eds), *China’s journey toward the rule of law: legal reform, 1978-2008* (Brill 2010) 498; McElwee (n 20) 24.

³⁹ Wang (n 37) 499.

⁴⁰ As amended, http://www.npc.gov.cn/englishnpc/Law/2007-12/12/content_1383917.htm . Formally implemented in 1989.

⁴¹ Wang (n 37) 496.

⁴² *ibid.*

⁴³ Pitman B Potter, *China’s Legal System* (Polity Press 2013) 40-41, 155.

⁴⁴ Wang (n 37) 497-8.

⁴⁵ Roughly equivalent to a civil service – see A Doak Barnett, *Cadres, Bureaucracy, and Political Power in Communist China* (Columbia University Press 1967).

⁴⁶ McElwee (n 20) 25.

⁴⁷ *ibid* 25-8.

minister has gained membership of the State Council. As a corollary its status has been elevated to the highest level of national administrative.⁴⁸

The *Environmental Protection Law* serves as a framework law, providing principles, establishing an administrative system for protection and a legal basis for the development of various environmental protection institutions, and providing the system for implementation of environmental management.⁴⁹ The latter includes the requirement that environmental protection efforts are to be implemented during the design, construction and operation of industrial facilities. Along with environmental impact assessment and emission fees, this serves as the basis of environmental management systems in China.⁵⁰ Under this framework, the NPC has promulgated nine environmental protection laws, and the State Council enacted over fifty administrative regulations.⁵¹ In addition, over six hundred rules and regulations have been issued by the departments of the State Council, and other subordinate congresses and governments to implement the said laws and administrative regulations.⁵²

In the cognate area of energy law, so critical for CCS, the Chinese government has been regulating for broad environmental ends for decades. As early as 1980, the government established multi-levelled bureaucratic roles, including within state-owned enterprises specifically for the purpose of energy conservation. Notably though, as noted by Wang, this was achieved not through positive law but was rather “direct government intervention by means of administrative plan and order.”⁵³ Nor is this a historical anomaly – the *Energy Conservation Law* (2007)⁵⁴ is judged to be “mostly a policy declaration and policy framework with weak operative nature [with] few punitive measures to deal with violations [and] governmental authorities having too much discretion in their functions of macro-regulatory and administrative supervision.”⁵⁵ Furthermore, as Wang patiently demonstrates, such “defects and deficiencies” [p 398] are endemic in fields beyond energy conservation law. The Renewable Energy Law 2005 displays many such characteristics. After noting the widespread role of civil society organisations in formulating and enforcing environmental law, and of citizens’ rights of information and participation, it is noted that although Article 9 of the Renewable Energy Law requires that opinions be sought from *inter alia* the general public, “the provision is not operational but a declaration of policy.” [p 394] Although others take a less critical stance on

⁴⁸ *ibid* 29.

⁴⁹ Wang (n 37) 500-1.

⁵⁰ *ibid*.

⁵¹ Chenxia Shi, ‘Directors’ Duties and Liabilities in China : Enforcement Difficulties in Protecting Investors and Other Corporate Stakeholders’, *Political determinants of corporate governance in China* (Routledge 2012) 182.

⁵² *ibid*.

⁵³ Wang (n 37) 385.

⁵⁴ http://www.npc.gov.cn/englishnpc/Law/2007-12/11/content_1383579.htm

⁵⁵ Wang Mingyuan, ‘China’s Plight in Moving Towards a Low-Carbon Future: Analysis from the Perspective of Energy Law’ in Donald N Zillman and others (eds), *Beyond the carbon economy: energy law in transition* (Oxford University Press 2008) 385-6.

environmentally-related public engagement in China,⁵⁶ further examples of the shortcomings of Chinese environmental law abound.

A detailed analysis of the shortcomings of Chinese enforcement of environmental regulations, with a focus on the institutional framework by which regulations are enforced, comes from Andrews-Speed. His closely observed work on the closely related fields of energy policy and regulation (specifically, the regulation of township and village coalmines), identifies two basic institutional challenges, “the ever-changing structure of government [and] the opaque, heterogeneous and ambiguous nature of government functions in China.”⁵⁷ There is, he observes, a hierarchically organized set of environmental agencies, bureaus and offices ranging from central government to township, as well as a significant overlapping of responsibilities.⁵⁸ The consequent “inadequate implementation and direct obstruction” are predictable, and are supplemented by “the sheer number of vertical reporting lines [and] the overlap or duplication of roles amongst different agencies.”⁵⁹ The conclusion that the regulatory system has been “largely ineffective [and] characterized by an ever-growing weight of laws and regulations and a highly complicated administrative structure” bodes ill for the broader character of energy and environmental regulation as the “higher levels of government are prevented from achieving their policy goals by policy modification, inadequate implementation and direct obstruction at intermediate and lower levels of government.”⁶⁰ In Andrew-Speed’s estimation, not only are such outcomes typical of Chinese regulatory systems, but “in the energy and natural resources sectors the negative impact of such administration is particularly pronounced.”⁶¹

c) The Turn to the Climate

Although China ratified the UNFCCC from the first, and has been engaged in its negotiations ever since, domestic climate change action did not immediately follow. In the decade or so from 1992, China’s primary policy goal was its development strategy and annual economic growth of 10%. To the extent that environmental concerns were articulated in major policy processes, they were manifested in the form of sustainable development planning. As early as 1994 China’s *Agenda 21: White Paper on China’s Population, Environment and Development in the 21st Century* explicitly stated the wish to control GHG emissions for purposes of climate

⁵⁶ Qiuyan Zhao, ‘China’s Emerging Regulatory Framework for Safe and Effective CCS, 2011-15’ in Ian Havercroft, Richard Macrory and Richard B Stewart (eds), *Carbon Capture and Storage: Emerging Legal and Regulatory Issues* (Hart Publishing 2011) 229.

⁵⁷ CP Andrews-Speed, *Energy Policy and Regulation in the People’s Republic of China* (Kluwer Law International 2004) 197.

⁵⁸ *ibid* 198.

⁵⁹ *ibid* 200.

⁶⁰ *ibid* 200–201.

⁶¹ *ibid* 201.

change avoidance,⁶² in terms that combined the tenor of the UNFCCC, and post-Rio understandings of sustainable development. Similarly, the 10th FYP (2001-2005) gives great focus to sustainable development, including related objectives to, inter alia, increase forest cover, improve energy efficiency, expand renewable energy. From reading Chinese scholars it seems to be the case that the policy commitments in Agenda 21 and other policy documents of the era were not translated into law, much less complied with in spirit.⁶³

However, from the Eleventh Five Year Plan (2006-2011) onwards, a new shift towards the environment and climate concerns became clear. Various explanations can be offered – the entry into force of the Kyoto Protocol and the economic opportunity offered by the Clean Development Mechanism, increasing international pressure for action as China’s emissions matched those of the USA, as well as the co-benefits for the climate associated with the domestic priority of action on air pollution in China’s cities. The policy momentum that these Plans have given climate action in China has been considerable, ranging over fields as diverse as energy efficiency, adaptation, the built environment, forest management, and tools from carbon tariffs to trading schemes.⁶⁴

While the climate aspects of the FYP are closely connected with air pollution control policies⁶⁵ contained in the 11th Five Year Plan (2006-2010)⁶⁶ and the 12th Five Year Plan (2011-2015),⁶⁷ the Plans certainly have had broader environmental ambitions. As Na notes, the 11th FYP was based on the ‘Scientific Development Concept’, promoted by then President Hu Jintao as the guiding socioeconomic ideology of the Communist Party of China.⁶⁸ At the core of concept was the goal of “environmentally friendly and energy-efficient growth”,⁶⁹ from which followed the Plan’s policy of reducing unit GDP intensity by 20% by 2010 compared with 2005, and a 10% reduction in polluted substances. Notwithstanding these goals, such was the ‘success’ of China’s energy-intensive industries that coal consumption actually increased in this period.⁷⁰ The 13th FYP is a yet more ambitious scheme, with yet

⁶² China’s Agenda 21 (1994), ch 18(31-35), cited in Jiang Xiaoyi, ‘Climate Change and Energy Law’ in Tianbao Qin (ed), *Research handbook of Chinese environmental law* (Edward Elgar Publishing 2015).

⁶³ In addition to Jiang, see Mingyuan (n 54). Xi Wang and others, ‘Research and Scholarship on Climate Change Law in Developing Countries’ in Daniel A Farber and Marjan Peeters (eds), *Encyclopedia of Environmental Law: Climate Change Law*, vol 1 (Edward Elgar Publishing Ltd 2016), Na Sungin, ‘Towards Sustainable Development in Developing Countries: Achievements and Problems of a Clean Development Mechanism’ in Hidenori Niizawa and Toru Morotomi (eds), *Governing Low-carbon Development and the Economy* (United Nations University Press 2014), amongst many.

⁶⁴ Wang Weiguang and Guoguang Zheng (eds), *China’s Climate Change Policies* (Routledge 2012).

⁶⁵ See generally, Chris P Nielsen and Mun S Ho (eds), *Clearer Skies Over China: Reconciling Air Quality, Climate, and Economic Goals* (MIT Press 2013).

⁶⁶ http://www.gov.cn/english/special/115y_index.htm accessed on 21 December 2016 – focusing on sulphur control policies and a carbon tax.

⁶⁷ <http://english.gov.cn/12thFiveYearPlan/> accessed on 21 December 2016 – advancing carbon pricing schemes and in particular the piloting of carbon trading schemes.

⁶⁸ Sungin (n 62) 73.

⁶⁹ *ibid.*

⁷⁰ *ibid.*

deeper carbon and energy intensity targets aimed at meeting its Paris Agreement pledge to reduce carbon intensity 60 to 65 percent by 2030.⁷¹

It should also be noted that notwithstanding a historically uneasy relationship with international law,⁷² China has engaged positively with the climate regime. This is especially true of the UNFCCC negotiations since the Copenhagen COP (2009) which marked a new era of BASIC leadership with China's then premier Wen Jiabao and other leading developing countries accepting the possibility of quantified emission reductions, in exchange for developed countries fulfilling their environmental commitments.⁷³ Arguably the Trump Presidency will deepen this process of engagement. Indeed, it has been argued that the 'America-first' approach of the Trump administration means that, "China has an even greater stake in investing in international regimes, as well as more room for leadership. It is instructive that Beijing's immediate reaction to Trump's election was to call for reaffirmation of commitment to the Paris climate change deal."⁷⁴

As to the legal substance of China's current climate regime, a revealing account is provided by Wang.⁷⁵ It sets out the various targets for energy intensity, afforestation, pollution reduction etc laid down in successive Five Year Plans, the wide range of policies to adjust China's industrial structure, improve its energy efficiency and so on, as well as better known initiatives such as the carbon trading pilot schemes. What is notable however about this discussion is the admission that "the proliferation of discreet energy and climate-related plans, policies, and projects...has not relied on legislative authorization. A substantial program has emerged through the state planning process and related target and policy documents."⁷⁶ Not merely is there no 'climate change law' on the model understood in many other jurisdictions, the body of instruments understood as the Chinese climate regime exists without any visible means of legal support. Odder is Wang's insouciance: "It is unclear what function legislation and their chosen allocations of authority would serve that is not already served by state planning..."⁷⁷ – a matter to which we will return below.

⁷¹ See <http://en.ndrc.gov.cn/newsrelease/201612/P020161207645765233498.pdf>

⁷² See generally, Ann E Kent, *Beyond Compliance: China, International Organizations, and Global Security* (Stanford University Press 2007).

⁷³ Lavanya Rajamani, 'The Making and Unmaking of the Copenhagen Accord' (2010) 59 *International & Comparative Law Quarterly* 824.

⁷⁴ Kerry Brown (ed), *The Critical Transition: China's Priorities for 2021* (Chatham House 2017) 51. See also Clark (n 2).

⁷⁵ Wang (n 9).

⁷⁶ *ibid* 651.

⁷⁷ *ibid*.

3. CCS and China

a) Policy and Pilots

Given the scale and industrial profile of the Chinese economy, especially its reliance on coal-fired power generation, CCS in China is mutually supportive of Chinese decarbonisation, as well as global efforts at wide scale CCS deployment. China's energy system alone accounts for nearly half of the world's 1,950GW of existing coal-fired power plants⁷⁸ and the role of CCS in contributing to China's suite of climate policies, and enabling them, has been publically recognised. In the foreword to a important 2015 report by the Asian Development Bank, the Deputy Director General of the NDRC's Department of Climate Change discussed the urgent need "to expand [CCS] deployment at a rapid scale to meet priority emission reduction targets in the short, medium and long-term."⁷⁹ In China, as elsewhere, CCS deployment is a condition precedent to the lowest cost deployment of other climate change policies. For example, in the IEA's Roadmaps, the cost of meeting the 450ppm target increases by c.40% without CCS, owing to the absence of alternatives to fossil fuel power in industry sectors such as iron and steel, cement, chemicals etc.⁸⁰

In recognition of the imperative of widespread CCS deployment, China has invested considerable policy energy in the development of its CCS knowledge base. As Qin notes, China has for a number of years engaged in research projects, policy studies and roadmaps, pilots, and demonstration projects on aspects of the CCS chain, including the world's largest capture project for coal-fired power plants.⁸¹ Detailed studies however have found that the CCS regulatory framework in China to be unfit for purpose, even when taking into account the scope for adaptation of existing laws.⁸² Although some aspects of the regulation of the CCS chain hold out some hope (principally those related to industrial activities), others provide less scope for building upon, primarily those related to geological storage.⁸³

⁷⁸ OECD/IEA (n 3).

⁷⁹ Asian Development Bank, *Roadmap for Carbon Capture and Storage Demonstration and Deployment in the People's Republic of China* (Asian Development Bank 2015)
<<https://www.adb.org/sites/default/files/publication/175347/roadmap-ccs-prc.pdf>>.

⁸⁰ For the role of each of the other energy technologies necessary to achieve the 2050 target, see <www.iea.org/roadmaps>.

⁸¹ Tianbao Qin, 'Regulation of Carbon Capture and Storage in China: Lessons from the EU CCS Directive' in Michael Z Hou, Heping Xie and Patrick Were (eds), *Clean Energy Systems in the Subsurface: Production, Storage and Conversion* (Springer Berlin Heidelberg 2013) - at Table 7 and attendant text. See also Seligsohn and others (n 11) Box 2.

⁸² Seligsohn and others (n 11).

⁸³ *ibid* 3, 6-9.

b) The Adequacy of Amending Extant Regimes

Seligsohn *et al* do however survey the existing legal and institutional arrangements in a variety of CCS-relevant areas such as environmental standards, geological storage, regulatory oversight, and health and safety. The purpose is to explore the scope for drawing upon these various bodies of law, and attaching CCS-specific provisions to them, in the absence of a dedicated CCS regime on the EU model. In many respects, this is a promising exercise, noting for example that “China already has robust regulations for plant construction and air pollution that will impact all CS capture plants and form part of the CCS-specific regulations...under the current Law on Prevention and Control of Air Pollution.”⁸⁴ Other areas however are considered in more neutral terms and the generic limitations of Chinese environmental law are discussed. In addition to the shortcomings discussed herein, a wide range of regulatory gaps are explored, the most pressing of which are capture, transportation, and geological storage. To take the first of these, the water consumption aspects of capture are not addressed in the existing legislation. For a water stressed society such as China, it is vital therefore that the impact of CCS plants on local water supplies is adequately approved and monitored. Whilst transportation regulation should be able to draw on cognate schemes for oil, gas, and chemical, new CO₂ purity standards will be required as well as standards for pipeline materials.

Regarding geological storage, owing to the differences in storing CO₂ as compared with the existing storage regimes (for radioactive pollution, chemicals, hazardous materials etc) a bespoke CCS storage regime would be required. There are though ample regimes for emulation in this respect. Gibbs though has subjected this precise issue to exacting scrutiny, and developed criteria to examine the effective enforcement of underground storage of CO₂.⁸⁵ The four criteria are:

- 1) comprehensive obligations addressing the risks
- 2) comprehensive monitoring and verification (M&V) requirements
- 3) enforcement mechanisms, and
- 4) clear allocation of roles and responsibilities for enforcement.

Gibbs assesses the geological storage of CO₂ in five jurisdictions, including China’s onshore regime. Each legal and regulatory regime is scored against each of the four criteria, and areas of potential improvement recommended.⁸⁶

⁸⁴ *ibid* 7.

⁸⁵ MK Gibbs, ‘Effective Enforcement of Underground Storage of Carbon Dioxide’ (HWL Ebsworth Lawyers 2016).

⁸⁶ *ibid* 7-8.

Gibbs' scores (1) at 2/9 for China,⁸⁷ with Gibbs agreeing with Seligsohn et al that while current laws could be adapted for demonstration projects, larger scale projects would need specific CCS laws, particularly in respect of the lack of technical and management standards, efficient policies for information disclosure and public engagement, and financial barriers and lack of efficient economic incentivising policies to cover the commerciality gap.⁸⁸ Gibbs identifies gaps in the application of the Chinese EIA process to CCS projects, and the fact that CO₂ is not a designated pollutant for licensing purposes.⁸⁹ Accordingly, while the Environmental Protection Law makes polluters liable for the failure to control pollution, not classifying CO₂ as a pollutant makes it unclear whether such rules could be enforced as regards CCS.⁹⁰ By Criterion (2), China similarly performs weakly – 3/9, principally due to the absence of technical and management standards applicable to CCS.⁹¹ In a similar fashion to Seligsohn, it is noted that whilst other environmental regimes may potentially apply to closure and long-term monitoring, there are currently no requirements applicable to CCS.⁹² Criterion (3) also scores 3/9, with Gibbs noting the inadequacy of financial penalties for polluting which leads to strategic non-compliance as it is frequently cheaper to pollute and pay a fine than abate. Furthermore, with patchy enforcement, pollution is often undertaken costlessly, that is, without the payment of sanctions.⁹³

It is of course recognised that the Chinese legal system has available a wide variety of administrative enforcement tools for environmental matters, from the issuing of warnings, and terminating licences, to fines, property seizures and mandatory shutdowns. Criminal sanctions are also available.⁹⁴ However, and as will be discussed at greater length in the section below, the effectiveness of environmental enforcement suffers from widespread local protectionism, not least since enforcement authorities are often major shareholders of polluting enterprises, which creates powerful conflicts of interest.⁹⁵ Finally, environmental laws often lack clear obligations, having the character more of policy statements or ideals than binding norms.⁹⁶ Many of these shortcomings have been recognised by the State. Gibbs cites the 2016 acknowledgment by the Environmental Protection Minister of issues with local protectionism and interference.⁹⁷ One response to these problems that is noted with approval is the introduction of economic incentives, rewarding local government officials and enterprises who meet environmental targets, and fining and criticising those who fail to achieve their targets.⁹⁸

⁸⁷ *ibid* 30.

⁸⁸ *ibid*.

⁸⁹ *ibid*.

⁹⁰ *ibid* 31-2.

⁹¹ *ibid* 31.

⁹² *ibid*.

⁹³ *ibid*.

⁹⁴ *ibid*.

⁹⁵ *ibid* 32.

⁹⁶ *ibid*.

⁹⁷ *ibid*.

⁹⁸ *ibid*.

Criterion (4) – the clear allocation of roles and responsibilities for enforcement – is scored 1/3.⁹⁹ As is noted elsewhere herein, the wide range of possibly applicable laws is reflected in that a variety of government bodies would be involved in the enforcement activities, with uncertainty as to roles and responsibilities, a problem that has caused issues with the enforcement of environmental law in the past.¹⁰⁰ Additionally, problems of resourcing are not uncommon. The Ministry of Environmental Protection is reported to have limited resources, frequently leaving enforcement to local Environment Protection Bureaus. However, these bodies themselves are also understaffed, lacked authority, and are inevitably at risk of regulatory capture.¹⁰¹ Again, these limitations have been acknowledged by the Minister for Environmental Protection.

In the light of the above it is not surprising that China performs poorly in comparison with other Asia-Pacific nations.¹⁰² Its score of 9 out of 27 indicates that significant reform of the regime is required for Chinese CCS enforcement to be effective. By comparison, the Australian Offshore Regime scored 25/27, the Japanese and Malaysian Offshore Regimes respectively 17/27, and 12/27.

c) State Owned Enterprises

One further challenge of CCS in China touched upon by Seligsohn and others, but deserving of greater attention, is that posed by China's State Owned Enterprises (SOEs).¹⁰³ Given the need for large investments and familiarity with the operations of the power sector, it is a certainty that many of the leading industrial actors involved in CCS in China will be SOEs – the Chinese grid companies are owned by the state and power generation is dominated by state-owned enterprises.¹⁰⁴ Indeed, several SOEs have considering large scale demonstration projects,¹⁰⁵ and keys aspects of CCS infrastructure, such as the CO₂ pipeline network could be organized as a fully state-owned enterprise.¹⁰⁶ Moreover, SOEs have a number of structural advantages such as being “better placed to manage risks than smaller, independent operators, and are therefore expected to be involved in a majority of the demonstration projects”.¹⁰⁷

⁹⁹ *ibid* 33.

¹⁰⁰ *ibid*.

¹⁰¹ *ibid*.

¹⁰² *ibid* 2, 14-15, 30.

¹⁰³ For an early treatment of the issues, see Richard Macrory, 'Air Pollution and the Regulation of European State Enterprises: A Comparative Legal Model' in William Elliott Butler (ed), *Yearbook on Socialist Legal Systems* (Transnational Juris Publications Inc 1989).

¹⁰⁴ Mun S Ho, Zhongmin Wang and Zichao Yu, *China's Power Generation Dispatch* (Resources for the Future 2017) 12-13.

¹⁰⁵ Asian Development Bank (n 78) 8.

¹⁰⁶ *ibid* 19.

¹⁰⁷ *ibid* 45.

SOEs are but one of the contradictions within the Chinese state. Article 15 of the Constitution describes its mode of economic system as a “socialist market economy” – a term unexplained. One of the ways in which China manages the tension between these facts and norms is via SOEs, means of protecting large parts of the industrial sector from competition, while simultaneously promoting market liberalization.¹⁰⁸ Inevitably the relationship between the Chinese state and SOEs is a complex one, mediated through SASAC,¹⁰⁹ a commission of the State Council functioning as a supervisory authority and a holding company.¹¹⁰ SASAC is the ultimate shareholder of 100-120 core companies and hundreds of downstream subsidiaries controlled through pyramid structures. SOEs managed by SASAC include PetroChina, Shenhua, and the State Grid. Its control may be direct or indirect, and it is not unusual for SOEs to have close links to local governments.¹¹¹ SASAC is one of the groups that needed to approve investment decisions for SOEs, including CCS projects.¹¹²

The Chinese state also has significant control over the executives of SOEs. The Communist Party and SASAC share an arrangement to appoint and rotate leading personnel in the spheres of business, government and Party.¹¹³ Such rotation is particularly common among the senior executives of different business groups in the same sector.¹¹⁴ State also has control in managerial incentives, such as compensation.¹¹⁵ Moreover, success and promotion in business brings accompanying rewards in the area of politics, and vice versa.¹¹⁶ For instance, number of positions in elite government and party bodies are reserved for leaders of SOEs.¹¹⁷

Of particular significance for present circumstances is that the Chinese state has less control over SOEs than may be supposed. Indeed, Milhaupt and Zheng conclude that Chinese state capitalism can be better explained by *capture of the state* than by ownership of enterprise. Large, successful firms exhibit a number of common characteristics: market dominance, receipt of state subsidies, proximity to state power, and execution of the state’s policy objectives.

Instances of SOE capture of the state are abound, with the strictures of law routinely being eased where the exigencies of a situation so require. Lin and Milhaupt give the example of SASAC encouraging SOEs to collaborate in overseas projects so as to

¹⁰⁸ Christopher A McNally (ed), *China’s Emergent Political Economy: Capitalism in the Dragon’s Lair* (1 edition, Routledge 2007) 3-17.

¹⁰⁹ State-Owned Asset Supervision and Administration Commission of the State Council, <http://en.sasac.gov.cn/>

¹¹⁰ Curtis J Milhaupt and Wentong Zheng, ‘Beyond Ownership: State Capitalism and the Chinese Firm’ (2015)

103 *Georgetown Law Journal* 665; Li-Wen Lin and Curtis J Milhaupt, ‘We Are the (National) Champions: Understanding the Mechanisms of State Capitalism in China’ (2013) 65 *Stanford Law Review* 697.

¹¹¹ Lin and Milhaupt (n 108) 725, 734.

¹¹² Seligsohn and others (n 11) 20.

¹¹³ Milhaupt and Zheng (n 108) 677; Lin and Milhaupt (n 108) 707, 737, 741.

¹¹⁴ Milhaupt and Zheng (n 108) 677; Lin and Milhaupt, 740

¹¹⁵ *ibid.* 680

¹¹⁶ Lin and Milhaupt (n 108) 707

¹¹⁷ *ibid.* 726-727

increase global competitiveness. Whilst such activities undoubtedly raised antitrust concerns under the Chinese Antitrust Law, “SASAC-supervised enterprises have been virtually exempt from antitrust enforcement”.¹¹⁸ Concerns of this nature inevitably raise the question of whether the intimate relations between SOEs and the State constitute a corruption problem – discussed below.

4. The Problem of Law and the Environment in China

a) Legal Codes, Hostility to

The argument above, that there is an absence of hard law in China regulating climate change, much less CCS, fits into a broad narrative about the role of law in Chinese society. At the highest level of generality, this sits well with the claims that there is a traditional Chinese hostility to legal codes and law. Dull wryly recounts the sixth century B.C. story of Deng Xi, a man who sought to establish a system of lawful accountability for rulers, only to be executed for his troubles. Says Dull, “when looking for the root causes of modern China’s low opinion of lawyers, the story of Deng Xi should be examined for the source of a deep prejudice, not against laws, but *against public laws that could take on a life of their own and be used to challenge the authority of official policies and values.*”¹¹⁹

Such approaches, emphasizing a deep seated hostility to law in China are also to be found in the writings of contemporary human rights scholars, and those working in related fields such as criminal law and procedure. Recounting appalling litanies of human rights abuses – abduction, unauthorised detention, 'black jails', forced abortions and sterilizations, intimidation of activists and families of activists, interference with lawyers, 're-education through labour' and so on – the conclusion is that such violations of basic rights are suffered by millions of Chinese on an annual basis. As Cohen points out, all these are plain violations of the Chinese Constitution, but “at present the government offers no effective means of enforcing constitutional protections.” [xii]¹²⁰ Nor is this merely a matter of administrative omission, the State is actively complicit in such violations: “the police have mastered the range of lawless black arts, and the procuracy and the courts have too often proved accommodating.” [ix]¹²¹ For Western lawyers, the position of the Courts is central. Writing in the context of the criminal law, Cohen notes that “the courts ...have often had difficulty fairly applying [the law]. Party interference, corruption, local protectionism and social networks have all led to distorted applications of the law.”

¹¹⁸ *ibid* 723. See further the discussion regarding the position of SASAC under the Law on State-Owned Assets of Enterprises, at 736.

¹¹⁹ Jack Dull, ‘The Deep Roots of Resistance to Law Codes and Lawyers in China’ in Karen Turner-Gottschang, James V Feinerman and R Kent Guy (eds), *The limits of the rule of law in China* (University of Washington Press 2000) 328–9. Emphasis added.

¹²⁰ Jerome A Cohen, ‘Foreword: Lawlessness in China’ in Xu Youyu and Hua Ze (eds), *In the shadow of the rising dragon: stories of repression in the new China* (Palgrave Macmillan 2013).

¹²¹ *ibid*.

[x]¹²² Indeed, at the time of writing, Zhou Qiang, President of the Supreme People’s Court, denounced the idea of judicial independence, urging higher court officials to “bare your swords towards false western ideals like judicial independence.”¹²³

Mattei stresses the dangers of slipping into stereotyped views of Chinese law, that “traditional culture disparaged law, that Chinese law was devoid of concepts of rights, and that the domination of law by political considerations was and still is viewed as legitimate in the Confucian tradition.”^[37]¹²⁴ Instead, the alternative approach is to seek to understand the “different structural nature of law in [China]”^[37]¹²⁵, with a key hint being provided by which pattern of law comes out second in the competition – in the case of China, likely to be political law.

b) Administrative Measures, and the Rule of Law

The preference for administrative fiat in place of ordinary law is evident in the case of Chinese climate law. This is not to criticize either its scope or effectiveness. The argument can easily be made that Chinese climate action is at least as powerful, as extensive as other more rule based regimes. However, *pace* Wang, the issue is less one of brute effectiveness, than normative. The key shortcoming of non-legislative rule making is routinely identified as one of epistemic accessible. The rules governing a polity should promulgated as public knowledge so that the demos can scrutinise, criticise, internalize and plan for it, and “use it as a framework for their plans and expectations and for settling their disputes with others.”¹²⁶ Rules should be made in public and not in obscure bureaucratic contexts. Additionally, the institutions of state, including the courts, “should be available to ordinary people to uphold their rights, settle their disputes, and protect them against abuses of public and private power.”¹²⁷ Rules should be clear and determinate, such that official interpretations do not leave citizens subject to official whims. At the heart of this latter point is the need of judicial independence, executive accountability, the absence of corruption, and so on.

Viewing Chinese environmental and climate regulation in the light of the rule of law, it is not a surprising to conclude that it is an inadequate regime. At the highest level of abstraction the difficulties of China to cohere with the strictures of this principle are well documented.¹²⁸ Indeed, when subjected to the various factors and criteria of the World Justice Project China performs remarkably poorly for a jurisdiction of its

¹²² *ibid.*

¹²³ Lucy Hornby, ‘China’s Top Judge Denounces Judicial Independence’ *Financial Times* (17 January 2017).

¹²⁴ Mattei (n 14).

¹²⁵ *ibid.*

¹²⁶ Waldron (n 30).

¹²⁷ *ibid.*

¹²⁸ For indicative surveys, see Dingjian Cai and Chen ‘guang Wang (eds), *China’s Journey toward the Rule of Law: Legal Reform, 1978-2008* (Brill 2010); Karen Turner-Gottschang, James V Feinerman and R Kent Guy (eds), *The Limits of the Rule of Law in China* (University of Washington Press 2000).

wealth and sophistication – 80th out of 113 surveyed states overall, sandwiched between Burkina Faso and Zambia. Whilst performing well in fields such as order and security, and civil justice, its constraints on government powers, regulatory enforcement, and fundamental rights protection are negligible.¹²⁹ Such a system in which the rule of politics dominates so decisively over that of law is deeply inimical to the ideals of the rule of law. Scholars such as Tamanaha have termed this the *rule by law*.¹³⁰ Whereas the traditional understood rule of law elevates law from politics, such that it stands in a position of equidistance from all people and institutions, the rule by law is deployed as nothing more than an instrument of political will. Law in this sense is unidirectional in that it is a tool by which the state can exercise dominion over its citizens without it ever being able to exercise similar control over the state. The enforcement of environmental law generally, and in respect of the SOEs which will operate so decisively in the context of CCS, demonstrate precisely this.

c) Enforcement

The “airpocalypses” of extreme air pollution events suffered by China are now annual events, making clear to global audiences that the environment of China has not been fundamentally improved by its corpus of environmental law and policy.¹³¹ The causes of this ineffectiveness are numerous¹³² – competences to make and implement environmental policies are broadly dispersed among ministries and agencies creating inconsistent approaches which hamper compliance.¹³³ Pivotal instruments such as the Environmental Protection Law have not been amended since 1989 meaning that many of its provisions are outdated and simplistic. The core task of affecting entities’ behaviour will not be achieved, for example, when the benefits of non-compliance are greater than the cost of penalties.¹³⁴

As discussed above, law has not always been the vehicle by which public behaviour has been modelled in China, and the concept of the rule of law has never been fully accepted by the Chinese state.¹³⁵ In the place of law, other considerations, often political or ideological have mediated the application of law,¹³⁶ a particular instance of which are the informal *guanxi* networks.¹³⁷ In an instance of drafting straightforwardly antithetical to the rule of law, Chinese laws are often drafted at a

¹²⁹ JC Botero, M Agrast and A Ponce, *World Justice Project - Rule of Law Index 2016* (The World Justice Project 2016).

¹³⁰ Brian Z Tamanaha, *On the Rule of Law: History, Politics, Theory* (Cambridge University Press 2004) 3.

¹³¹ Wang (n 36) 350.

¹³² *ibid.* 352; McElwee (n 19) 3; Shi (n 49) 182.

¹³³ McElwee (n 19) 9.

¹³⁴ Shi (n 49) 183.

¹³⁵ Wang (n 36) 532-3; Pitman B. Potter, *The Chinese Legal System: Globalization and Local Legal Culture* (Routledge 2001) 7.

¹³⁶ McElwee (n 19) 4-5.

¹³⁷ *ibid.* 8; Pitman B. Potter (n 94) 7, 30.

high level of generality which provides the interpretive space for corruptive practices.¹³⁸ In particular, local authorities have sufficient flexibility in the interpretation and implementation of legislation which undermines certainty of law.¹³⁹ It is by the use of *guanxi* rather than transactional bribery that decision making is influenced, a system which weakens environmental law, legal authority, and the prestige of the judiciary.¹⁴⁰

Economic development is often considered to be of higher importance when it conflicts with environmental laws and regulations.¹⁴¹ Both national and local governments have their own economic development goals and needs in mind, and routinely use pressure to obstruct enforcement.¹⁴² When environmental obligations are to be enforced locally, authorities may be discouraged from enforcing them in the belief that the same may not occur in competing jurisdictions, thereby putting their local industries at a competitive disadvantage.¹⁴³ In this way, the geographic fragmentation of environmental responsibility combined with economic considerations can discourage authorities from enforcing the rules and instead defaulting to local protectionism.¹⁴⁴

Institutionally, environmental enforcement agencies face difficulties to undertake their duties due to their bureaucratic connections with environmental protection departments of local governments, whose staff and resources are controlled by the local seat of the People's Government.¹⁴⁵ Primary responsibility for environmental protection is with the local authorities, and despite reporting obligations there are opportunities to not follow the environmental laws.¹⁴⁶ The local People's Government may prioritise economic development over environmental protection, and in some cases, the environmental protection departments may even become accomplices in illegal construction projects.¹⁴⁷ Refusing to follow the requests of the government and insisting on enforcing the law may lead to dismissal of the environmental officials.¹⁴⁸ More generally, routine problems of resourcing arise – environmental protection departments have limited resources to enforce the law;¹⁴⁹ and they have difficulties to discover polluters in their jurisdiction in a timely manner, and challenges in collecting sufficient evidence to present in court due to

¹³⁸ McElwee (n 19) 8; Peerenboom (n 30) 251.

¹³⁹ Peerenboom (n 31).

¹⁴⁰ Wang (n 36) 533; McElwee (n 19) 6.

¹⁴¹ McElwee (n 20) 6; Potter (n 42) 159.

¹⁴² Wang (n 37) 533.

¹⁴³ McElwee (n 20) 7.

¹⁴⁴ Shi (n 50) 184; McElwee (n 20) 7; .Zhenmin Wang and Kai Tu, 'Chinese Constitutional Dynamics: A Decennial Review' in Albert HY Chen (ed), *Constitutionalism in Asia in the Early Twenty-First Century* (Cambridge University Press 2014) 137.

¹⁴⁵ Wang (n 37) 533-4.

¹⁴⁶ McElwee (n 20) 5-6.

¹⁴⁷ Wang (n 37) 534.

¹⁴⁸ *ibid.*

¹⁴⁹ *ibid.*; McElwee (n 20).

lack of appropriate equipment to monitor activities.¹⁵⁰ Where illegal construction projects are supported by government agencies and local governments behind the scenes, it is extremely difficult for environmental offices to enforce the law.¹⁵¹

As regards establishing liability, there are problems both substantive and procedural. Company law provides a not inconsiderable loophole in that while polluting companies can face civil liability for harming the environment, there is liability for directors.¹⁵² As regards enforcement mechanisms, Gibbs notes that China's Tort Liability Law provides enforcement avenues for individuals.¹⁵³ If there is loss or damage that CCS causes, these laws can provide for remedies.¹⁵⁴ Against that, there is a swathe of Chinese environmental law literature that runs in the opposite direction. Environmental public interest litigation has struggled to make progress.¹⁵⁵ The reasons include the tradition of having citizens, legal persons or other groups who are direct stakeholders as plaintiffs, and this being resistant to change. Also, there is some concern that the system would appear to undermine the government due to expanding democratic values.¹⁵⁶ The legislation on defending environmental rights is described as weak, lacking important procedural elements, such as rules on responsibility to provide evidence, determination of causation and on the scope of damages.¹⁵⁷ The laws have underdeveloped areas, which has caused many disputes to languish without a resolution, and some to end up to violent clashes over pollution.¹⁵⁸ Polluting industries are sometimes protected by local governments, meaning that impartial judgments are hard to obtain.¹⁵⁹ Often defence of environmental rights is also more challenging due to the quality of the judges in the judicial system, including their lack education and systematic training in environmental law, and sufficient knowledge about how to handle pollution cases. The independence of judges is disrupted by central and local government involvement through personal relations, and appointment and funding powers.¹⁶⁰ In this way, environmental rights suffer from a negative impact caused by judges relying on civil cases where they lack specific knowledge on how to approach violations of environmental rights. Recently established local special environmental courts have been established to tackle the issues resulting from lack of special

¹⁵⁰ Wang (n 37) 534.

¹⁵¹ *ibid* 545.

¹⁵² Shi (n 50) 182-3.

¹⁵³ Gibbs (n 84) 32.

¹⁵⁴ *ibid*.

¹⁵⁵ Wang (n 37) 537-538. For a more positive assessment, see James Thornton of Client Earth, 2015 UKELA Garner Lecture "Can we Catch-Up? How the UK is falling behind on Environmental Law". Copy on file with the author.

¹⁵⁶ *ibid*.

¹⁵⁷ *ibid* 538-539.

¹⁵⁸ *ibid*.

¹⁵⁹ *ibid* 539-540.

¹⁶⁰ Shi (n 50) 171; Pitman B. Potter (n 133) 32; Wang (n 37) 541; Wang and Tu (n 142) 136-7.

knowledge, and the method has shown success.¹⁶¹ That said, the lack of specialised knowledge on environmental law concerns not only judges but also bureaucrats.¹⁶²

d) Corruption

Corruption as regards Chinese SOEs is “widespread, and accompanied by institutionalised and pervasive cronyism.”¹⁶³ President Xi Jinping has run an anti-corruption campaign from 2012 onwards,¹⁶⁴ but corruption remains endemic, and there have been struggles to carry out fundamental reforms.¹⁶⁵ The factors enabling corruption within SOEs include the “complexity of the SOE operation, decentralisation of managerial power allowing direct control over distribution of resources, and the ability to make decisions generating corrupt benefits. Rampant corruption is further enabled by weak supervision systems and opportunities for corruption created both by the system and the use of legitimate managing power.”¹⁶⁶

For the purposes of CCS, these mechanisms to extract rents from governments risk undermining key aspects of CCS. Whilst SOEs may align with the interests, goals, and priorities of the political leadership by developing CCS projects, they may be relatively indifferent to aspects of project integrity which the leadership are similarly indifferent to. Poor site selection, monitoring, CO₂ purity, or any number of other systemic defects may well go undetected and even tacitly supported in an environment in which firms obtain special advantages through corrupt access to government, and where there is deep convergence of interests between managerial elites in the party-state and business.¹⁶⁷

¹⁶¹ Wang (n 37) 541.

¹⁶² McElwee (n 20) 5.

¹⁶³ Milhaupt and Zheng (n 107) 691, citing the Heritage Foundation’s 2013 Index of Economic Freedom. See also Wenhao Cheng, ‘An Empirical Study of Corruption within China’s State-Owned Enterprises’ (2004) 4. Special Issue on: Corruption in China, *China Review* 55.

¹⁶⁴ Milhaupt and Zheng (n 107) 682.

¹⁶⁵ Heritage Foundation, 2017 Index of Economic Freedom, Asia-Pacific, China, 127.

¹⁶⁶ Cheng (n 116) 78-9.

¹⁶⁷ Milhaupt and Zheng (n 107) 688, 716.

5. Conclusion

In the concluding chapter to this volume the editors observe that one of law's key functions is to provide the means to resolve conflicting interests, to articulate, "the framework for reconciling the complex issues and relationships involved [in greenhouse gas reductions]. This reinforces the importance of developing effective legal and regulatory structures." If one agrees that law is a zone of institutionalised contestation between competing societal interests, the foregoing severely questions whether this is a universal truth, or one particular to certain legal systems. Certainly, the case cannot be easily made that Chinese law mediates effectively between the various stakeholders potentially implicated in a CCS project. That case is yet harder to sustain in relations between aggrieved individuals, and the State and its proxies.

One way to understand this would be to argue that there is in China simply an absence of law *tout court*. One might draw upon Gibbs and her finding that, having measured the Chinese CCS regime against her four criteria, there is a need for a permitting regime to be established, relevant standards to be developed, including monitoring and verification standards, for existing enforcement mechanisms to be adapted or new mechanisms developed for CCS, for the roles and responsibilities of the relevant authorities to be clarified, and for attitudes toward enforcement and compliance to be changed to ensure effective operation of CCS in China.¹⁶⁸ All this is undoubtedly correct, but 'mere' rulemaking would not address the problem in a legal system in which tradition and politics play as significant as they do in China. As Mattei notes, "one should not confuse the rule of traditional law with the absence of law or even with the absence of formal legal institutions. In the rule of traditional law formal legal institutions do exist, but their working rule is different from what we are used to in Western societies."¹⁶⁹ The deficit in this sense is then not the absence of law, but the perceived shortcomings of the mode of law. In one sense, the story of China's climate regime, and its CCS regime, is one of the abundance of bureaucratic agreements, plans, and schemes that have a degree of effectiveness that more conventionally 'legal' regimes might envy. Such is the interlocking web of relations that the Chinese State, SOEs, and local governments have between one another, that the 'absence' of law can be (and often in the literature is), eased out of sight. This however is to do an injustice to the weight of the distinction between the rule of law, and the rule by law. The latter's elevation of politics above law serves to allow the state can exercise uncontested might over its citizens. For the purposes of enforcing environmental law in China, and in particular respect of the SOEs which will operate so decisively in the context of CCS, there is little prospect of a CCS regime which both enables its widespread deployment *and* protects the broader interests of the environment and citizens.

¹⁶⁸ Gibbs (n 84) 33-4.

¹⁶⁹ Mattei (n 15) 39.

Author Biography

Navraj Singh Ghaleigh is Senior Lecturer in Climate Law at the University of Edinburgh where he is the Head of the Public Law Subject Area, and Director of two LLM programmes: LLM in Global Environment and Climate Change, and LLM in Law and Chinese. He has published widely on the nature of climate law and its inter- and infra-disciplinary nature. His current research interests relate to climate law in East Asia, and the operation of climate constitutionalism in the light of the Paris Agreement.