



Chinese Compliance to Carbon Emissions Trading Regulations: A Three Mechanism Legal Compliance Approach

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Abstract

The Hobbesian mechanism emphasizes the enforcement of sanctions as the primary means to ensure compliance, while the Durkheimian mechanism focuses on the symbolic legitimacy of the law and the importance of morality in law enforcement, and the Habermasian mechanism centers on rational communication and consensus in achieving societal compliance. This research aims to identify the application of these three legal compliance mechanisms (Hobbesian, Durkheimian, and Habermasian) in China regarding the implementation of carbon emissions trading regulations under the Kyoto Protocol 1997 and the Paris Agreement 2015 by the United Nations Framework Convention on Climate Change. The study employs normative legal research methods with legislative and conceptual approaches. The findings reveal regional variations in the implementation of carbon emissions trading regulations in China, with diverse levels of compliance among companies. Although overall compliance is relatively high, challenges in enhancing compliance persist, particularly in regions like Beijing and Tianjin. Factors such as local government policies, imposed sanctions, and administrative capacity play crucial roles in determining compliance levels. Analysis of compliance with carbon emissions trading regulations across different administrative levels in China demonstrates diverse outcomes. At the central level, Chinese government compliance with regulations is driven by moral awareness of climate change, reflecting the Durkheimian mechanism. Meanwhile, regional differences in compliance are attributed to variations in regulations concerning incentives and sanctions, with Tianjin exhibiting low compliance due to lax sanctions (Hobbesian mechanism), while Shanghai and Guangdong show high compliance due to rational consensus between the government and companies (Habermasian mechanism).

1. Introduction

Compliance of society with the law depends on how the law is enforced. Efforts to enforce the law are known through three mechanisms of compliance: the Hobbesian mechanism, the Durkheimian mechanism, and the Habermasian mechanism. These three mechanisms will serve as a reference in analyzing the level of societal compliance

with regulations issued by supranational institutional bodies such as the United Nations (UN). For example, regulations regarding Greenhouse Gas (GHG) emissions trading issued by the United Nations Framework Convention on Climate Change (UNFCCC) under the Kyoto Protocol 1997,¹² furthermore, these actions are followed up and reinforced in the Paris Agreement of 2015.³ This regulation emerges as a manifestation of awareness regarding climate change issues and the urgent need to achieve sustainable development goals (SDGs)⁴ to address it by reducing the need to cut down greenhouse gas emissions, which have particularly adverse effects, especially on developing countries due to their limited capacity to adapt.⁵

Article 17 of the Kyoto Protocol 1997⁶ introduced the idea of trading carbon emission reductions on the global market and using them to fulfill emission reduction obligations. Carbon emissions trading is subject to the fulfillment of commitments by each country as stated in Article 3 and Annex 1 of the Kyoto Protocol 1997. This protocol does not obligate developing countries to reduce their GHG emissions. However, in its course, the Kyoto Protocol 1997 has not been able to effectively address the worsening global climate change each year. Eventually, the UNFCCC established a new framework for cooperation, utilizing international carbon market mechanisms to achieve climate mitigation contributions outlined in the Paris Agreement of 2015.⁷ Article 6.2 allows countries to use "internationally transferred mitigation outcomes" to achieve their predetermined national contributions, while Article 6.4 establishes a mechanism for issuing credits under international supervision.⁸ In principle, the Paris Agreement of 2015 places responsibility on all countries, both developed and developing, to rapidly reduce GHG emissions and express their commitment to maintaining the threshold for global temperature increase.⁹

¹ The Kyoto Protocol was adopted on 11 December 1997. Owing to a complex ratification process, it entered into force on 16 February 2005. Currently, there are 192 Parties to the Kyoto Protocol.

² Newell, Richard G, Pizer, William A, and Raimi, Daniel. (2016). *Carbon Markets: Past, Present, and Future*. Third Edition. Washington DC: Resources For the Future, p. 2

³ The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015. It entered into force on 4 November 2016.

⁴ Rusdiana, S., Silviani, N., Zanariyah, S., & Sari, R. (2023). Indonesian Clean Water Availability in SDGs: Analysis of Emerging Legal Problems. *Jurnal Magister Hukum Udayana (Udayana Master Law Journal)*, 12(4), 742-760. <https://doi.org/10.24843/JMHU.2023.v12.i04.p01>, p. 747

⁵ Morgan, Jennifer P. (2016). Carbon Trading Under the Kyoto Protocol: Risks and Opportunities For Investors. *Fordham Environmental Law Review*, 18(1), 151-184. <https://www.jstor.org/stable/44174946>, p. 151

⁶ *Ibid.* p. 158

⁷ Corbalán Arévalo, S. (2023). German Environmental Concerns on Carbon Offsetting and Reduction: How it Deals with European and International Rules?. *Udayana Journal Of Law And Culture*, 7(2), 120-143. <https://doi.org/10.24843/UJLC.2023.v07.i02.p05>, p. 124.

⁸ Schneider, Lambert and Theuer, Stephanie La Hoz. (2019). Environmental Integrity of International Carbon Market Mechanisms under the Paris Agreement. *Climate Policy*, 19(3), 386-400. <https://doi.org/10.1080/14693062.2018.1521332>, p. 387

⁹ Sofia, Elda. (2019). Implikasi Hukum Paris Agreement Melalui Program REDD+ Berbasis Blue Carbon Di Indonesia. *Jurnal Magister Hukum Udayana (Udayana Master Law Journal)*, 8(2), 174-187. <https://doi.org/10.24843/JMHU.2019.v08.i02.p03>, p. 175-176.

To assess the level of compliance with carbon emissions trading regulations, a case study focusing on one of the countries with high carbon emissions, such as China, is chosen. China's stance on carbon emissions trading regulations, from the inception of the Kyoto Protocol 1997 to the Paris Agreement 2015, fundamentally supports and adopts them into its national regulations as its obligation as a member of the UNFCCC.¹⁰

This is marked by the initiation of pilot programs in six cities around 1994.¹¹ The program became fully effective in 2014, encompassing seven administrative regions in China: Beijing, Shanghai, Tianjin, Chongqing, Shenzhen, Guangdong, and Hubei.¹² The implementation of the carbon emissions trading pilot program refers to China's Environmental Protection Law of 1979, along with four other key environmental protection laws serving as references for carbon trading.¹³ The Chinese government also issued three strategic policies to support pollution control activities: the Three Synchronisations Policy, Environment Impact Assessment, and Pollution Charge.¹⁴

Referring to the explanations above, it is important to conduct further analysis regarding the level of compliance with carbon emissions trading regulations in China, referring to three legal compliance mechanisms (Hobbesian, Durkheimian, and Habermasian). This research will focus on the formulated issues:

- 1) How is the implementation of carbon emissions trading regulations in the Kyoto Protocol 1997 and Paris Agreement 2015 in China?
- 2) What is the level of compliance of China with carbon emissions trading regulations in the Kyoto Protocol 1997 and Paris Agreement 2015, viewed through three legal compliance mechanisms (Hobbesian, Durkheimian, and Habermasian)?

This research demonstrates justifiable originality, given the prior literature review conducted on several articles in accredited journals. Three articles were found to share a similar topic but approached it from different perspectives. The first article, titled "*Analisis Kepentingan Tiongkok Untuk Compliance Terhadap Paris Agreement UNFCCC 2015-2020*," published in the *Global Transformation Journal of Brawijaya University*, Volume 9, Number 1, 2022, discusses China's interest in ensuring compliance with the Paris Agreement amid high domestic economic interests. The research findings indicate China's self-interest factors in successfully achieving compliance with the Paris Agreement, as observed through the variables of outputs, outcomes, and impact.¹⁵

¹⁰ Chang, Yen Chiang and Wang, Nannan. (2017). Environmental Regulations and Emissions Trading in China. *Energy Policy*, 38(7), 3356–3364. <https://doi.org/10.1016/j.enpol.2010.02.006>, p. 3356

¹¹ Hart, Craig and Zhong, Ma. (2014). China's Regional Carbon Trading Experiments and the Development of a National Market: Lessons from China's SO₂ Trading Programme. *Energy and Environment*, 25 (3–4), 577–592. <https://doi.org/10.1260/0958-305X.25.3-4.577>, p. 581

¹² *Ibid.* p. 582-583.

¹³ Chang and Wang. *Op.cit.* p. 3357.

¹⁴ Chang and Wang. *Loc.it.*

¹⁵ Fariza, Ira Rahma and Indraswari, Firstyarinda Valentina. (2022). Analisis Kepentingan Tiongkok Untuk Compliance Terhadap Paris Agreement UNFCCC 2015-2020. *Transformasi Global*, 09(1), 38–53. <https://doi.org/10.21776/ub.jtg.009.01.4>, p. 38

The second article, titled "*Perspektif Keadilan Dalam Kebijakan Perdagangan Karbon (Carbon Trading) Di Indonesia Sebagai Upaya Mengatasi Perubahan Iklim*" published in the *Refleksi Hukum Jurnal Ilmu Hukum* Volume 7 Number 2, 2023, with the topic focusing on the importance of applying a justice perspective in carbon trading regulations as regulated in the CEV Presidential Regulation, the research findings indicate that the context of justice in carbon trading regulations should be interpreted as an effort to address all aspects: environmental/ecological, social, and economic. Justice here does not solely consider the current situation (intra-generational) but also must take into account the value of justice for future generations that must be ensured and fulfilled (inter-generational).¹⁶

The third article, titled "*Perdagangan Karbon: Mendorong Mitigasi Perubahan Iklim Diantara Mekanisme Pasar Dan Prosedur Hukum*" published in the *Selat Journal* Volume 10 Number 2, 2023, the discussion revolves around carbon trading, which is one of the preventive measures and forms of adaptation to climate change that has occurred over the past few decades by implementing market mechanisms in the form of carbon trading. The research findings indicate that the analysis of international legal instruments regarding carbon trading, such as the Paris Agreement 2015, shows legal ambiguities, especially in some technical operational provisions of carbon emission trading. Therefore, a solution can be offered by forming new, more binding international regulations for UNFCCC member countries and strengthening the technical provisions for setting global carbon pricing.¹⁷

Referring to the comparison, it's evident that this research has distinctive elements and is more focused on how the implementation of carbon emissions trading regulations in China and the level of China's compliance with carbon emissions trading regulations in the Kyoto Protocol 1997 and Paris Agreement 2015 are viewed through three legal compliance mechanisms (Hobbesian, Durkheimian, and Habermasian).

2. Research Methodology

To elaborate on the above issues, this research employs a type of juridical normative study.¹⁸ According to Nurul Qamar, "juridical normative research is a type of legal research that examines the validity of positive law as well as legal principles and legal doctrines in a structured manner."¹⁹ Specifically, this research will focus on the normative level of an international regulation related to carbon emissions trading regulated in the Kyoto Protocol 1997 and Paris Agreement 2015. This study adopts a

¹⁶ Prihatiningtyas, Wilda et al. (2023). *Perspektif Keadilan Dalam Kebijakan Perdagangan Karbon (Carbon Trading) Di Indonesia Sebagai Upaya Mengatasi Perubahan Iklim*. *Jurnal Ilmu Hukum*, 7(2), 163–186. <https://doi.org/10.24246/jrh.2022.v7.i2.p163-186>, p. 163

¹⁷ MJ, Nur Azizi, Putra, Akbar Kurnia and Sipahutar, Bernard. (2023). *Perdagangan Karbon: Mendorong Mitigasi Perubahan Iklim Diantara Mekanisme Pasar Dan Prosedur Hukum*. *Jurnal Selat*, 10 (10), 91–107. <https://doi.org/https://doi.org/10.31629/selat.v10i2.4853>, p. 91-92

¹⁸ Soekanto, Soerjono and Mamudji, Sri. (2016). *Penelitian Hukum Normatif Suatu Tinjauan Singkat*. Cet. XXVI. Jakarta: RajaGrafindo Persada, p. 14

¹⁹ Qamar, Nurul and Rezah, Farah Syah. (2020). *Metode Penelitian Hukum: Doktrinal Dan Non-Doktrinal*. Makassar: CV. Social Politic Genius (SIGn), p. 34

legislative approach and conceptual approach.²⁰ The collected legal materials are then processed using qualitative analysis techniques, which involve systematic organization, description, and explanation stages.²¹

3. Result and Discussion

3.1. Implementation of Carbon Emissions Trading Regulations in China

In response to international demands to reduce carbon emissions, China has made global commitments to decrease carbon emissions, aiming for them to peak by 2030 and achieve carbon neutrality by 2060. Therefore, the concepts of “green development: and the development of an “ecological civilization”²² are gradually being implemented as primary strategies toward a low-carbon economy. To accelerate the transition to a low-carbon economy, the Chinese government has implemented various regulations and policy actions, such as the establishment of carbon trading mechanisms. The concept of carbon trading originates from "emissions trading" proposed by American economist Dales, which is a government-led environmental regulation policy aimed at reducing environmental pollution.²³

Carbon trading with market mechanisms in China effectively began at the end of 2013 with the launch of pilot carbon trading programs in 2014. In July 2021, China fully launched its national carbon trading market. From a substantive perspective, the carbon trading market is an important environmental policy tool that utilizes market transactions to reduce carbon emissions and promote environmentally friendly development. To support this, broad discretion is given to provincial and local governments in each province and region of China to set carbon emission reduction targets, allocate budgets, and entrust law enforcement to local governments as stipulated in the Emission Trading System of China.²⁴

The discretion granted has led to the emergence of specific policies in each region, particularly concerning enforcement, sanctions, and fines imposed for non-compliance.²⁵ For example, Shenzhen and Shanghai reduce incentives provided in the following year if companies meet emission reduction targets and traded quotas. Meanwhile, Guangdong and Hubei double the amount of incentives reduced for non-compliant companies in the subsequent year. Beijing, on the other hand, imposes fines ranging

²⁰ Marzuki, Peter Mahmud. (2014). *Penelitian Hukum*. Cet. IX. Jakarta: Prenadamedia Group. p. 133

²¹ Benuf, Kornelius, Mahmudah, Siti and Priyono, Ery Agus. (2019). Metodologi Penelitian Hukum Sebagai Instrumen Mengurai Permasalahan Hukum Kontemporer. *Refleksi Hukum: Jurnal Ilmu Hukum*, 3 (2),150–151. <https://doi.org/10.24246/jrh.2019.v3.i2.p145-160>, p. 151

²² Liu, Baoliu et al. (2023). Carbon Trading and Regional Carbon Productivity. *Journal of Cleaner Production*, 420(August), 1–12. <https://doi.org/10.1016/j.jclepro.2023.138395>, p. 1

²³ *Ibid.* p. 2.

²⁴ Hart and Zhong. *Op.cit.* p. 579.

²⁵ Chang and Wang, *Op.cit.* p. 3360.

from three to five times the excess carbon emissions percentage determined over the last six months, depending on the level of non-compliance.²⁶

The significant differences in regulations across regions affect the level of compliance of companies with carbon emissions trading regulations adopted by China from the Kyoto Protocol 1997 and Paris Agreement 2015. The compliance rate of companies in Shenzhen reaches 99.7%, in Shanghai it is 100%, and in Guangdong, it achieves a compliance rate of 98.9%, which is a significant achievement for a province with many large manufacturing companies. In Beijing and Tianjin, the compliance rates are 97.1% and 96.5%,²⁷ respectively. Particularly in Beijing, the relatively low compliance rate is attributed to highly complex conditions,²⁸ with many companies and public facilities contributing to carbon emissions compared to other regions. The lowest compliance rate among the five pilot projects in Tianjin occurred because companies included in the Tianjin pilot project were not required to pay fines if they failed to meet their emission obligations.²⁹ The only sanction imposed was the denial of preferential financing services or not receiving budget investment projects within three years.³⁰

The continued low compliance mentioned above can be attributed to the suboptimal performance of local governments in each pilot region to enforce environmental regulations, particularly those governing carbon emission reduction and trading. This is a result of China's fiscal decentralization system and incentives, as well as the discretion in determining enforcement regulations for corporate non-compliance.³¹ The enforcement of regulations related to environmental protection is the responsibility of provincial and local environmental protection bureaus, appointed and funded by the National People's Congress of China. This aligns with the main structure of China's environmental control system based on the "two committees, one bureau" model.³² The presence of environmental protection bureaus in each region does not significantly affect compliance rates because compliance depends on the severity of sanctions imposed and the amount of incentives provided to companies.

²⁶ Zhang, Zhongxiang. (2015). Carbon Emissions Trading in China: The Evolution from Pilots to a Nationwide Scheme. *Climate Policy*, 15 (1), 104–126. <https://doi.org/10.1080/14693062.2015.1096231>, p. 110-111.

²⁷ *Ibid.* p. 113.

²⁸ Goulder, Lawrence H., et al. (2017). China's National Carbon Dioxide Emission Trading System: An Introduction. *Economics of Energy and Environmental Policy*, 6(2), 1–18. <https://doi.org/10.5547/2160-5890.6.2.lgou>, p. 11

²⁹ Stoerk, Thomas, Dudek, Daniel J., and Yang, Jia. (2019). China's National Carbon Emissions Trading Scheme: Lessons from the Pilot Emission Trading Schemes, Academic Literature, and Known Policy Details. *Climate Policy*, 19(4), 472–486. <https://doi.org/10.1080/14693062.2019.1568959>, p. 480-481

³⁰ Zhang, Da, et al. (2014). Emissions Trading in China: Progress and Prospects. *Energy Policy*, 75(1), 9–16. <https://doi.org/10.1016/j.enpol.2014.01.022>, p. 14

³¹ Tang, Hong li, et al. (2020). The Effects of Emission Trading System on Corporate Innovation and Productivity-Empirical Evidence from China's SO₂ Emission Trading System. *Environmental Science and Pollution Research*, 27(17), 21604–21620. <https://doi.org/10.1007/s11356-020-08566-x>, p. 21618

³² Hu, Yingde, Liu, Jixun, and Ahmed, Minhaz. (2022). Does Emission Trading Policy Restrain Economy? A County-Scale Empirical Assessment from Zhejiang Province of China. *Energy Policy*, 168(April 113138), 1–11. <https://doi.org/10.1016/j.enpol.2022.113138>, p. 10

Based on the above explanation, it can be said that the implementation of carbon emissions trading regulations in China shows variations among regions. China has made global commitments to reduce carbon emissions with targets set for 2030 and 2060. They have adopted the concepts of “green development” and “ecological civilization” and implemented carbon trading mechanisms to transition toward a low-carbon economy. Although the overall compliance level of companies with these regulations is high, there are significant differences among regions influenced by the policies and sanctions of local governments and their capacity to enforce regulations. There are challenges in improving compliance, particularly in regions like Beijing and Tianjin, which require efforts to improve the environmental regulatory enforcement system, including fiscal decentralization and incentives, as well as enhancing the capacity of local governments.

3.2. Compliance Level of China with Carbon Emissions Trading Regulations Viewed Through Three Legal Compliance Mechanisms

Enforcement determines the level of legal compliance within a society towards a rule. There are three different mechanisms in legal compliance: the Hobbesian mechanism, the Durkheimian mechanism, and the Habermasian mechanism.

The Hobbesian mechanism is based on the ideas of Thomas Hobbes, who sees law as a manifestation of the interests or collective consciousness of society that lacks the ability to create legal order, thus focusing on sanctions as the main variable in ensuring legal compliance, creating order through fear of the consequences of violation.³³ The Durkheimian mechanism considers law enforcement as a symbol of legal seriousness³⁴ because the existence of law enforcement is deemed morally significant to trigger citizens' commitment to comply with rules.³⁵ This means that law enforcement here not only upholds regulations but also preserves the social and moral norms of society. On the other hand, the Habermasian mechanism is based on Max Weber's idea of “value rationality,” which is developed from the concept of rationality.³⁶ The Habermasian mechanism views law enforcement as a medium of communication or rational discourse in which the state convinces citizens of the rigor of its decisions to seek what is objectively fair and create legitimate legal rules.³⁷

Referring to the explanations above, China's compliance with carbon emissions trading regulations issued by the UNFCCC shows differences in the use of compliance mechanisms from the central level to the local level. At the central level, after signing the

³³ Gezelius, Stig. (2007). Three Paths from Law Enforcement to Compliance: Cases from the Fisheries. *Society for Applied Anthropology*, 66(4), 414-425. <https://doi.org/10.17730/humo.66.4.r714225473703568>, p. 414

³⁴ Chaudhuri, Tanni. (2017). Megan's Law and Durkheim's Perspective of Punishment. *Journal of Arts & Humanities*, 06(07), 62-73. <https://doi.org/http://dx.doi.org/10.18533/journal.v6i7.1235>, p. 65

³⁵ Gezelius, Stig. *Op.cit.* p. 415

³⁶ Gezelius, Stig. *Op.cit.* p. 414

³⁷ Fatlolon, Costantinus. (2022). Evaluasi Proses Amendemen Undang-Undang Dasar Tahun 1945: Perspektif Habermasian An Evaluation of the Amendment Process of the 1945 Constitution: A Habermasian Perspective. *Jurnal Konstitusi*, 19(4), 819-842. <https://doi.org/https://doi.org/10.31078/jk1944>, p. 824.

UNFCCC and the Kyoto Protocol 1997, China recognized the importance and urgency of the role of all parties in addressing climate change, regardless of whether it is an obligation of developed countries or not. On its own initiative in the 1990s, China decided to transform its economic pattern towards technological innovation to reduce carbon emissions and began pilot emission trading in several regions in 1994.³⁸ This demonstrates that China's compliance with implementing these rules stems from a moral awareness to commit to regulations set by the UNFCCC, regardless of whether it is an obligation or recommendation for the country (Durkheimian mechanism).

There are differences in compliance mechanisms that have developed in the pilot carbon emissions trading regions. In Tianjin, the compliance level is the lowest among the six regions due to the absence of strict sanctions for companies that do not comply with emission limits, leading to companies being less afraid to violate regulations. This indicates that the compliance of companies in Tianjin reflects the Hobbesian mechanism as it still relies on sanctions as the main variable in ensuring legal compliance. Conversely, in Shanghai, the compliance level is the highest, despite being a densely populated business city with relatively strict sanctions for non-compliance. However, it is able to achieve perfect compliance due to rational communication between the regional government and companies to meet emission reduction and carbon trading requirements. Similarly, in Guangdong, which also achieves almost perfect compliance despite having many large manufacturing companies that tend to produce high carbon emissions, the same approach is applied as in Shanghai. It can be said that the compliance mechanisms in Shanghai and Guangdong are Habermasian mechanisms due to the existence of rational consensus between the government and companies to determine regulations that are acceptable and can be implemented in a legitimate and fair manner.

Based on the above description, it can be said that law enforcement determines the level of compliance of a society with rules, with three main mechanisms: Hobbesian, Durkheimian, and Habermasian. The Hobbesian mechanism emphasizes sanctions as the primary tool to ensure compliance, while the Durkheimian mechanism highlights the importance of legal and moral legitimacy symbols in rule enforcement. The Habermasian mechanism prioritizes rational communication and consensus in achieving compliance. In the case of China, compliance with UNFCCC carbon emissions trading regulations shows differences between the central and regional levels. At the central level, compliance reflects Durkheimian compliance, with a moral awareness to adhere to rules regardless of obligations for developed countries. In the regions, such as in Tianjin, compliance is lower due to the lack of strict sanctions, reflecting the Hobbesian mechanism. However, in Shanghai and Guangdong, high compliance levels are observed due to rational communication between the government and companies, marking the Habermasian mechanism.

4. Conclusion

The implementation of carbon emissions trading regulations in China shows variations among regions, with diverse levels of compliance among companies. Although overall compliance levels are relatively high, challenges in increasing compliance are still

³⁸ Chang and Wang. *Op.cit.* p. 3356.

evident, especially in regions like Beijing and Tianjin. Factors such as regional government policies, imposed sanctions, and administrative capacity play crucial roles in determining compliance levels. An analysis of compliance with carbon emissions trading regulations in China, viewed through three mechanisms of legal compliance, from the central level to the local level, yields different results. At the central level, China's compliance with carbon emissions trading regulations is based on its own initiative, recognizing the importance and urgency of everyone's role in addressing climate change, indicating the Durkheimian mechanism of compliance. Conversely, at the regional level, differences in compliance levels occur due to variations in regulations regarding incentives and sanctions, leading to different compliance mechanisms. In Tianjin, compliance levels are relatively low compared to other regions due to the absence of strict sanctions, indicating that compliance still relies on sanctions as its primary variable (Hobbesian mechanism). In Shanghai and Guangdong, compliance levels are relatively high due to rational consensus between the regional government and companies in determining regulations regarding incentives and sanctions, ensuring they are acceptable, legitimate, and implemented fairly (Habermasian mechanism).

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