

European Union's Rule of Law in Climate Governance and the Enlightenment to China

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Abstract

Climate change has developed into a global problem that threatens human existence. The European Union (EU) was the first to start climate governance, and has formed an effective, mature governance model and the rule of law system. The recognition of climate and social rules has led to the formation of a multi-party governance network. The analysis of the gains and losses of EU climate control aims at deepening our understanding of climate governance laws and providing new ideas for climate governance in different countries. The rapid and extensive development in China has also brought a series of climatic problems, but the “fragmentation” governance scheme has suffered “bottleneck” in the governance effect. This paper introduces the practice and legal experience of European Union climate control to give some enlightenment and promotion to China's climate control.

Key words: EU; Climate governance; The rule of law; Enlightenment

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Excessive human activities have caused significant disruption to climate, leading to unpredictable changes of global weathers. Climate change comes in the form of extreme weathers like hurricane, snow storm, smog,

flood and drought happening worldwide constantly. The unpredictable changes of climate threaten not only social development, but, more fundamentally, human existence itself. As the global economy strives forward, climate change has grown into the biggest concern of global environment. The EU, one of the earliest powers in industrialization, took its toll first on climate change on its path to economic flourishing. Faced with painstaking environmental cost and a demand for sustainable development, it has come to be a major player in global climate governance, where its active response leads to great accomplishment in energy conservation and emission reduction and, therefore, a low-carbon economy. Such quick actions enable EU to be an advocator of global climate change policy and a rule maker in the international community. The governance model adopted in its rule of law has offered insights for other countries or regions as for how they can tackle with climate change in national and international levels.

1. BACKGROUND

Climate governance is not an up-to-date slogan in the EU. Instead, it results from a series of comprehensive consideration of its geography, energy, economy, politics and diplomacy.

1.1 Natural Factor

Climatic and geographical environment is not immune to industrial pollution. The main contributors to climate change are the increasing greenhouse gases such as CO₂ in the atmosphere. At the beginning of industrial revolution, CO₂ concentration maintained a stable 0.028%, which was 280mm. Later at the turn of the century (18-19), the number soared to a 90% when Europe ushered in an industrial era with the invention of steam engine and the indispensable use of coal. The lesson was, however, ecological disruption came with economic boom. Later on, extreme weathers made frequent appearances in European countries. For instance,

in December, 1952, severe smog in London took 120,000 lives and more people fell victim to bronchitis, coronary heart disease, tuberculosis or cancers. It can be seen that EU countries were among the first to equip themselves with an ecological mindset than other countries and regions following in its industrial footsteps. The fragile geographical and climatic environment makes EU countries vulnerable to any damage, let alone such phenomenal disturbance imposed by climate change. According to the European Environment Agency, Europe has experienced a more obvious increase in temperature than the rest of the world. Predictably, by the end of the 21st century, 80% of the glaciers in Alps will melt away if the summer temperature rises by 3 degree centigrade and may simply disappear as soon as in 2050 (EEA, 2004). The risk assessment of climate change by the EU, from the perspective of human existence, necessitates the climate governance in the region.

1.2 Economic Factor

The exploitation of energy resources and economic restructuring also ask for climate governance. Energy is to economic development what arteries are to the body. The EU, scarcely endowed in energy, depends heavily on the import of petroleum and natural gas. The conundrum EU confronts leaves it little room to choose but confine it to act at the mercy of the policy and stance the energy exporters adopt. If significant breakthrough is achieved in energy technology, EU will be more self-independent in energy resources as well as get closer to be a low-carbon-emission region with less conventional energy resources consumed, which will hopefully become a new engine for economic growth. Among others, the "business as usual" model projects a potential 15% decrease of the import of petroleum and natural gas in EU by the end of 2020. The declining trend of the import of these two conventional energy resources will persist on the premise of continuous commitment to the policy of high efficiency in energy and new development in renewables by 2030.¹ Leading the field of technology on the globe, European countries enjoy prominent advantages in the development technology of energy resources, as captured in actual climate governance where EU's low carbon technology and the EU Emissions Trading System set the trend. EU members have already felt the urge to bring climate governance up on the agenda in hope of a new round of revolution that nurtures economic upgrading.

1.3 Political Factor

Through climate governance, EU answers the need of regaining its say and dominance in international politics and diplomacy. The climate issue, in essence, is a issue of power. Coming with the termination of

the Second World War was a less influential EU and an increasingly dominant America in the international political environment. The EU, striving for a new round of dominance in the international community with its members speaking with one voice, is enabled by the politics of climate change to play as leader in the negotiations of the Kyoto Protocol, exponent of the Bali Road Map in the Durban Conference, organizer of the Paris Climate Conference in its competition with US. All these bring EU to the cutting edge of the international climate events. There is no denying that the EU, trendsetter of global climate governance, simply leads in the politics of climate change and goes far beyond what the US and developing countries like China can reach.

2. EU'S ACTIONS IN CLIMATE GOVERNANCE

2.1 Actions in the International Level

At the beginning of the 1990s, amid questioning of the existence of climate change, EU, advocator of global climate governance, managed to advance the formation of international climate governance mechanism, especially signing treaties. On May, 9th, 1992, the Intergovernmental Panel on Climate Change (IPCC) passed *the United Nations Framework Convention on Climate Change* (UNFCCC), which was an authoritative, comprehensive and inclusive international framework, underpinning the international corporation in climate change. The fact was that UNFCCC carried no force of law. In December, 1997, with EU's efforts, the Kyoto Protocol was established after negotiation in the third session of the Conference of the Parties of UNFCCC held in Kyoto, Japan. As a whole, the EU promised an 8% cut of its gas emission. Historically, *the Kyoto Protocol* was the first-ever legally binding agreement providing detailed approaches to reaching the greenhouse gas emission targets it set. On May 31st, 2002, the EU and its members approved *the Kyoto Protocol*. Despite the withdrawal of the US in 2001, the EU remained unyielding, stepping up joint efforts with other countries in the governance of climate change (Xie, 2012). On February 16th, 2005, eventually, *the Kyoto Protocol* came into force, becoming the first law of force regulating the emissions of greenhouse gases in human history. November 12th, 2015 witnessed EU members successfully hold the Paris Climate Conference where *the Paris Agreement* was established as an all-inclusive law of force. With decades of unweaving efforts, the EU has made an enormous, fruitful difference in rule-making, reduction of gas emissions, carbon trading and carbon tariffs.

2.2 Policy Measures Encouraged Within EU Member States

The EU, a regional organization highly integrated in economy and politics, soon extended certain approaches within its members to meet its obligations in international

¹ WWF European Policy Office Briefing: The European Union's Energy Policy and Climate Change: why acting now will help save the climate and benefit the EU economy, <http://www.panda.org/epo>.

climate governance treaties. The most influential, effective ones include:

Periodical quantitative indexes are set with oversight. To meet the targets specified in *the Kyoto Protocol*, the EU issued the first climate and energy policy of EU – *the 2020 Climate and Energy Package* – in March, 2007 (Zhang, 2015). The Package states that by 2020 the EU will reduce emissions of greenhouse gases by 20% compared to the year of 1990, and if situations permitting, the proportion will go up to 30%. In the same year, renewable electricity will take up 20% with energy efficiency increased by 20%. On January 22nd, 2014, the European Commission established its 2030 targets for climate and energy, aimed to facilitate the sustainability of EU's economic development with a low-carbon economy model and advanced competitiveness of energy. According to the 2030 targets, a mid-term goal bridging the 2020 targets and the 2050 targets, by 2030 greenhouse emissions will be cut down by up to 40% from the 1990 amount, and as much as 27% or more of energy consumed will be produced from the renewables.

The European Union Emissions Trading System (EU-ETS), the first of its kind in the world involving multiple participants, is established. The EU-ETS, a climatic mechanism the EU established in 2005 to reach the emission goal in the Kyoto Protocol, allocates shares of emission targets to EU members which must, abiding by *the European Union Emissions Trading Directive* (EU-ETS Directive), work to fulfill their Kyoto targets. This entails that EU members put into practice the emission allocation plans *the Effort Sharing Decision* and further allocate emissions shares to companies. Those that meet their targets through technology innovation can sell their rest carbon credits to others that do not. The specific approach is that EU members, according to the rules issued by the European Commission, set a national emission cap and allocate respective shares of carbon credits to the designated industries and businesses contributing to emission trading (Zhang and Zheng, 2014). So far, the EU-ETS, the world's largest emission trading scheme, has involved about 12,000 energy-consuming businesses from 31 countries in industries such as steel, cement, electricity and glass, each representing a paradigm in the global carbon trading market.

Comprehensive, multi-level governance is advanced under a sophisticated system of regulations. The EU has been active in the implementation of different approaches based on the rule of law from the very first moment. In the 1980s, the EU ushered in a new period of legal governance of climate changes when energy innovation was placed in the center of legislative work. Later in the 1990s, transport legislation and tax legislation were both added to enrich the legislative system of climate governance. Stepping into the new millennium, the EU manages to embrace a comprehensive, sophisticated legislative system, as captured in the transition of governance model from an adaptive one

to a responsive one, from a single-tier one to an all-inclusive one with carbon capture and storage, energy conservation and emission reduction, low-carbon technology, energy resources, transport and market initiatives included. In 2000, the EU initiated a comprehensive action plan – *the European Climate Change Programme* (ECCP) involving a package of standardized and coordinative policy measures, such as the *EU-ETS Directive*, *the Energy Performance of Buildings Directive* (EPBD), *the Renewable Energy Directive* (RED), *the Combined Heat and Power Directive* (CHP Directive), *The Directive on the Promotion of the Use of Biofuels or Other Renewable Fuels for Transport*, *the Energy Taxation Directive* and the voluntary fuel economy agreements established between the automobile industry and the European Commission. The legislation of climate governance in EU, featuring its prioritized development of low-carbon technology and use of market instruments, can be taken as response to climate change, adaption to climate change and innovation of technology that cover emissions reduction, energy resources, transport, tax and carbon capture and storage (Fu, 2010).

2.3 Supplementary Policy Measures in Member States

With the EU and the international community coordinating in between, EU member states enjoy high level of autonomy in consideration of their diversity in domestic situations, hope-for governance, managing capacities and share of liability. Among others, it would be implausible for all 27 member states to adopt the same emissions limit when there exist more than moderate divides in economic development, institutional structure and industrial structure between different members for the implementation of the carbon emissions trading system. In practice, member states are respected in their domestic reality and allowed for tailored carbon credits that help strike a balance in benefits between all members. As well, member states take other legislative, executive and judiciary measures working as supplements to EU's emissions trading directive.

UK was the first hit hard by climate change. Closely following the suffering were its awareness of and quick response to the disruption climate changes brought about, which proved to be effective and rewarding. Hailed as the first industrial country, Britain, however, has experienced the severest air pollution ever could be. Before more lives were sacrificed, British people made decisive moves to remedy the polluted environment. In 1956, UK issued the Clean Air Act, the world's first air pollution prevention enactment. From 1968, UK introduced a series of revised acts of this kind. Entering a new century, most of UK's climate governance occurred in company with a combination of new energy policy and low-carbon technology. The 2003 Energy White Paper: *Our Energy Future - Creating A Low Carbon Economy* established by the British government was the first to top

energy and environment in the agenda to build a low-carbon community with a low-carbon economy. The revised version, *Meeting the Energy Challenge: A White Paper on Energy* (May, 2007) by Department of Trade and Industry emphasized in it the indispensable reduction of carbon dioxide in response to climate change. In 2008, the Climate Change Act was passed, sending UK to the very forefront of legislating greenhouse gas emissions standards. According to the Kyoto Protocol and EU's internal agreement on emissions shares, UK was expected to cut down its emissions by 12.5% compared to 1990 in the period 2008-2012. Attributable to down-to-the-ground implementation, the success of UK's climate governance has profoundly resonated with the liability of energy conservation and emissions reduction allocated by the EU.

France is another active player in climate governance. As a unitary republic evolving from an authoritarian regime, France makes it a priority to involve local governments in climate governance, with the participation of which its governance features a multi-tier model. In this model, participants of different levels coordinate to combat climate changes, from local governments/public entities to the central government, from citizens to governments, from communities to the market. France's climate governance has been shaped into a decision-making system with diversified participants from governments of different levels, businesses and social organizations and a multi-layer governance model involving local governments. A facile emissions reduction target and its advantage in energy transformation come together to contribute to France's confidence in its national climate governance when the government makes unyielding commitment. As a consequence, climate governance is among the top issues in France's diplomatic agenda.

As an economic power, Germany has been a significant contributor to the global climate governance thanks to its large pool of investment and advanced technology. In the past years, it has achieved the most successful emissions reduction among all European countries and formulated a climate governance strategy with German characteristics based on its energy policy and climate policy combined. In 2007, the German government established the Integrated Energy and Climate Change Programme, aimed at an ambitious emissions reduction target of 40% by 2020 and up to 80% to 90% by 2050 as compared to 1990. The target will mostly be dealt with by development of the renewables and improvement of energy efficiency, as specified in the 2010 strategy paper – the Federal Government's Energy Concept of 2010 and the Transformation of the Energy System of 2011. Following the 2011 Fukushima nuclear accident in Japan, the Merkel Administration sped up their transition of energy sources from conventional fuels to the renewables (Wu and Wang, 2017).

The EU members give different responses to the climate governance due to palpable distinctions in

political, economic and cultural development and varied pursuits for domestic benefits. In Italy, high energy intensity and the large proportion of natural gas in its energy consumption expose the country to high cost of emissions reduction and consequential inactivity in tackling the climate changes. When it comes to less developed countries like Spain and Poland, economic growth tends to top the agenda in policy-making and regulation. Climate governance, therefore, has long been viewed as a burden more than a contributor to economic growth in Spain. Without active commitment to decision making and effective measures, Spain's central government pays cursory attention to the task allocated from the EU. On the contrary, the Netherlands, from government to citizens, has shown constant concern about climate changes and eager to combat the resulting disruption. In 1989, the Netherlands issued the *National Environmental Policy Plan* (NEPP), signifying the Netherlands has championed a comprehensive, persistent model of climate governance. For a long time, a triplet of activeness, pragmatism and enthusiasm has been immersed into the climate governance on this land.

3. SUCCESS AND FAILURE IN EU'S CLIMATE GOVERNANCE

The EU has always been one of the active and crucial players in global climate governance. Throughout the past 30 years, the EU has devoted to bringing the issue of climate change in the limelight in international politics and economy, and eventually made it a reality. Meanwhile, the EU adopts respective policy measures that turn out to be workable, bringing advantage and leadership as a first mover. In its exploration, the EU has also taken a circuitous path where success and failure coexist, but the experience provides important insights into climate governance for the rest of the world.

3.1 Success

The climate governance in EU boasts a multi-level governance scheme. "Multi-level governance initially described a 'system of continuous negotiation among nested governments at several territorial tiers.'" (Hooghe and Marks, 2003) Under this system, different tiers—private, governmental, national, supranational and transnational—set aside their disputes and conflicts, and establish frequent, deepened exchanges and cooperation in climate changes, contributing to the structural formation of climate governance. "Network governance" means that in a multi-level governance structure where supranational, state, and sub-national actors distribute power, state and social actors gather, and national authority fades, a governance network system is formed (Kohler-Koch and Rittberger, 2007). Thanks to its geographical position, political structure and strong economy, the EU managed to establish the rationale of climate governance and

a rationale-based regional governance mechanism of climate changes, which provides new perspectives for practices around the world. Multi-level governance and network governance is at the heart of the mechanism, the former of which is a feature of the European integration. As captured in entities, actions, measures and policies, multi-level governance permeates the whole governance

system. Today's EU presents a complicated governance network that different tiers, including the EU, national states, regions and cities, overlap one another (Loughlin, 2001). As shown in the Figure 1, every factor such as entity, action and law connects in the whole and thus contributes to form a dynamic mode of network governance (Silverstini, 2008).

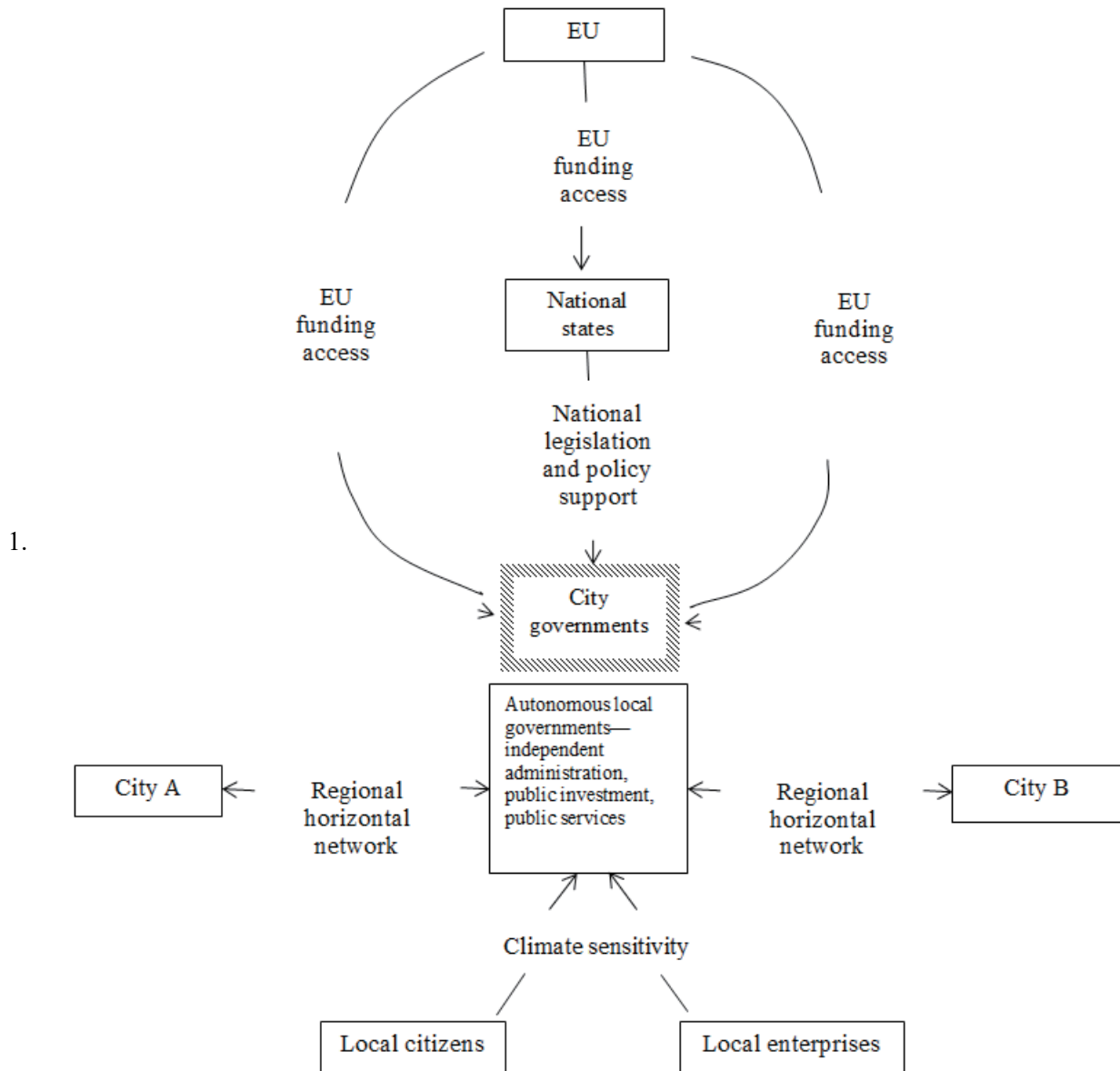


Figure 1
EU's Multi-tier Model of Climate Governance

The climate governance in EU boasts a standardized, workable carbon emissions trading system. As a supporter of climate governance, the EU has surpassed its Kyoto target — a 20% decline of greenhouse gases by 2020. The achievement of the promised target with low cost yet high efficiency is largely attributable to the EU-ETS of which the EU is proud. The most promotable practice in EU's governance is to see carbon credits as a property. Through market stimulation, the EU succeeds in bringing up energy

efficiency, boosting the development of new low-emission technology and activating capital flows necessary for a low carbon economy. The past 12 years has witnessed the EU-ETS functioning as a crucial public policy in its pilot stage, though far from perfect. Considering a mere 3-year span from its establishment to implementation, as well as the challenging coordination between 27 sovereign countries, the EU-ETS has outperformed other trading systems combined (Li, 2010). Specifically as the chart

below, the EU-ETS forms a healthy incentive circulation together with energy conservation and emission reduction,

technology innovation and energy development, carbon financial system and low carbon economy development.

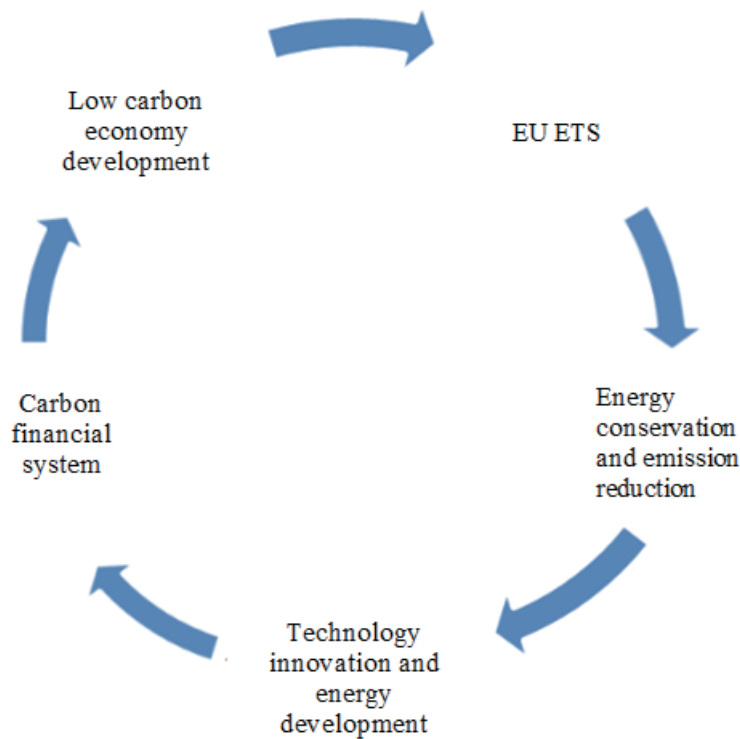


Figure 2
Operation of the European Union Emissions Trading System (EU-ETS)

Inspired by the EU-ETS, developing countries like China are setting out to build up its national emission trading system, while the EU itself is seeking more dominance in a new round of international climate negotiations with an ambition to establish a global carbon emission trading system encouraged by its first successful trial.

Placed in the priority list of climate governance is the development of technology innovation and energy sources. The EU has always been determined to promote technology and make breakthrough in energy conservation, emission reduction and energy source development. In the 1970s, the 1977-1980 European Community Science and Technology Policy Guide, launched by the European Economic Community (EEC), marked the emergence of a standardized strategy for cooperation in technological research and development. To create a level playing field for inter-corporation cooperation, the EEC again established the First Framework Programme for Research and Technological Development (FP1). From 1983, Europe began to implement a series of framework programmes within the continent, with the FP7 in force at present stage. The programmes are responses to the increasingly prominent issue of climate changes that enhance research and technological development of energy sources. In the FP6, among the top priorities were renewable energy technology, energy conservation and

efficiency improvement, alternative fuels, fuel cells and hydrogen storage. It is aimed at the development and use of new technology, sustainable energy production and application strategy of information and communications technology in electric power, especially the promotion of use of the renewables. Energy, at the time, was subsidiary to the system of Sustainable Development, Global Change and Ecosystems. It is not until in the FP7 that energy itself becomes one of the thematic priorities, which covers hydrogen and fuel cells, renewable electricity generation, renewables for heating and cooling, CO₂ capture and storage technologies for zero emission power generation, clean coal technologies, smart energy networks, energy efficiency and savings and knowledge for energy policy making. The purpose of the FP7, in a broader sense, is to respond to energy supply safety and climate change with an upgraded energy structure and higher energy efficiency. In 2008, the EU implemented the European Strategic Energy Technology Plan (SET-Plan) – strategic guidelines for energy sources development – giving indications of EU's renewed knowledge at that time. The SET-Plan mentioned the six pillars that the further development of energy sources depends on, including industrial biofuels, carbon capture, transport and storage, the European power grid, fuel cells and hydrogen, photovoltaic energy, solar and wind technology (Yin, Zhang, 2016). Technology innovation and energy policy adaptation are the two

dimensions that the EU takes advantages of and help the EU leading in the international climate governance.

The comprehensive climate legislation is another contributor to EU's success in climate governance. On one hand, laws aim to accelerate the European integration in economy, politics and military with specific purposes; on the other, the European Court of Justice (ECJ) has been searching for effective policies serving the integration process. Rigid regulations are therefore invigorated to elevate the European Communities Act 1972 in the legislative systems of the EC members (Wiener, 2009). In EU's climate governance, the theory of integration through law stands out among all regulation and policy making. With its members equipped with full-fledged legal systems, the EU has been always highlighting the significance of institutional innovation in building long-term mechanism for climate governance. The tradition of legalism, focusing on formal, authoritative legislation, is adopted in EU's governance. From the very beginning, the EU, a community with legal integration, has set up

standardized climate legislation through the relatedness between climate legislation and the establishment of a shared market, and the supporting cases in climate governance by the ECJ worked to supplement the legislation. The current climate legislation is categorized into EU legislation, national legislation and local legislation of different members in terms of legislative body, covering transport, energy sources, tax, finance, intellectual property rights and trade.

The legislation of climate governance has always been in dynamic changes. As in the types and collection of carbon tax, administration of carbon emissions trading and legislative support for IP rights, adaptation is delivered along social changes of any kinds.

3.2 Failures

Inevitably, the EU also experienced obstacles and setbacks in its exploration. Some reforms carried failed to meet the expectations, leaving the EU in disappointment and attacking its confidence in a large scale.

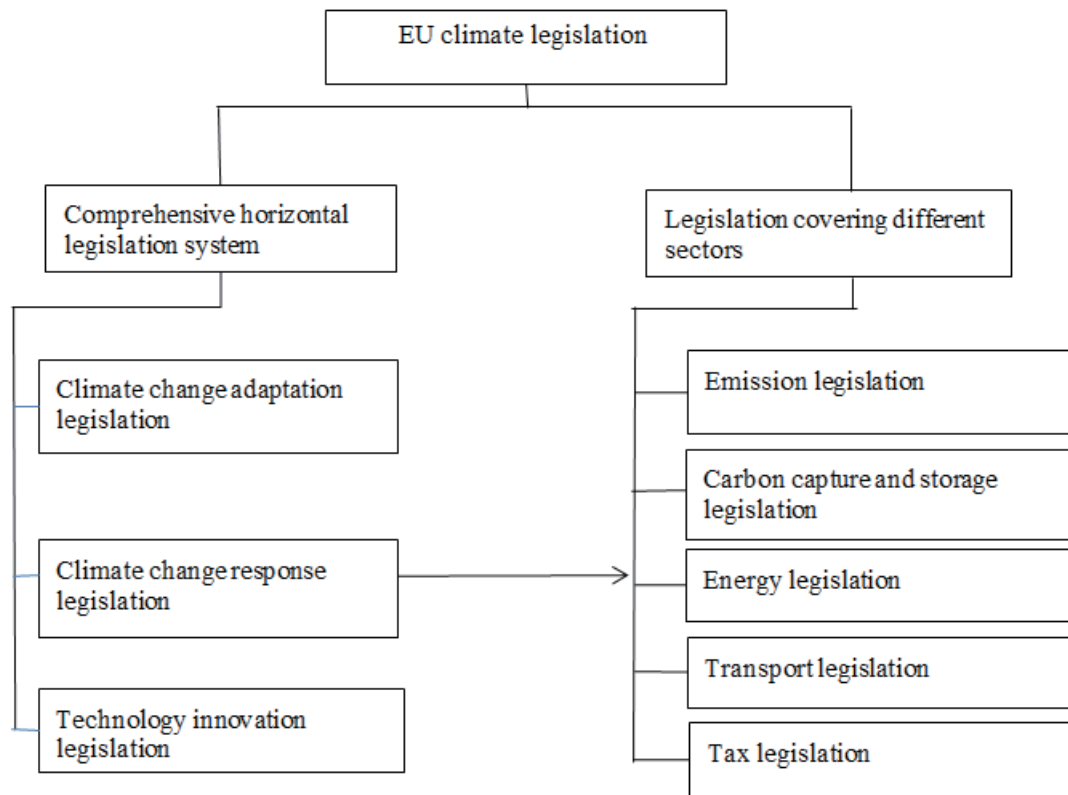


Figure 3
EU's Legislative System of Climate Governance

The EU's idealism in climate governance was torn down in reality. The 2009 Copenhagen Climate Conference turned out to be a turning point where the EU found itself, instead of playing a leading role as usual, on the downslope of position in international climate governance. In the enduring negotiations, the EU was parked at the periphery and even failed to make

it into the key decisive session. The image of a global leader in climate governance that the EU had been trying to maintain, therefore, was smashed. "Our level of ambition has not been matched, especially as there was not an agreement on the need to have a legally binding agreement." said Barroso, former president of EU Commission in the statement on the Copenhagen

Climate Accord. Since then, the EU has been less engaged in global climate issues with increasingly conservative targets for emission reduction. Also, the EU began to review and reassess its climate policy, and decided to abandon idealism and turned to reality-based measures. For example, the 2011 revised EU-ETS, with aviation added to the list, demanded an emission tax from all flights to the EU region from January 1st, 2012, but the implementation was forced to suspend from 10 months later after immense pressure imposed by countries such as US and China. Eventually, the EU could do nothing but to hand over the issue of greenhouse gas emission in aviation to international aviation organizations.

There exists an imbalance between EU members in climate governance, which concerns economic development levels, domestic conditions, resources, entry time, stances and capacity. With climate governance closely related to politics, economy, security and energy, the member states have diversified performance in their governance. Take the emission reduction targets for example. France, Sweden and the UK exceeded their targets, while Italy, Spain and Denmark, on the contrary, failed to reach theirs. As for Germany and Greece, both managed to meet their targets with the implementation of a combination of *the Kyoto Protocol* and new domestic policies. Another example is the outbreak of the overwhelming debt crisis in Europe. The member states, helplessly, needed to forge ahead and emerge from the economic recession as soon as possible. This anticipation inevitably ran against the policies of emission reduction, energy savings and environmental protection required in climate governance. For countries like Poland, heavy traditional-fuel-user and latecomer to the EU, battle against climate changes was deemed to be tough one. Considering its domestic economy, the country was strongly opposed to EU's climate policy. Therefore, the EU needs to work as a coordinator as usual and bridge the exchange and interaction between member states to achieve a balanced state in climate governance.

The EU, rather than a sovereign country, is substantially an international organization architected with a series of legally binding agreements. The climate governance, as a global issue, asks for the joint efforts of all member states, but the fact is that the EU and its member states do not yet reach a consensus when it comes to the jurisdiction in global climate governance. On one hand, member states are eager to claim dominance in the European integration; on the other, the EU expects to advance integration and empower itself with validity and authority. The EU has no center of power, which, instead, is authorized by the member states. This inherent adversity of structure leads to the disintegration and inefficiency in climate governance. In fact, climate governance requires centralized power and regulation. As in reality, the implementation of EU's climate policy relies on the governments of its member states, but the differences in

domestic benefits fail it. Even the democratic legitimacy is questioned. In EU's climate governance system, the European parliament (EP) is representative of citizens, while the Council of the European Union (CEU) the member states. This type of representative is viewed as the embodiment of the legitimacy of the EU, yet it still entails refinement (Zhao, 2010). As a supranational entity, the EU has been always thinking highly of the engagement of both governments and citizens of its member states, but it can't either avoid "democratic deficit" in climate governance as a result of the distribution and controls of power in constitutional governments.

The climate and energy policies of the EU are confronted with an uncertain future. The 2020 climate and energy targets set in 2007 mark the beginning of the journey to a low-carbon community. After 10 years' commitment, the EU gained some advantages in greenhouse gas emission, energy efficiency and renewable energy sources. Going through all stages of trial, extension and all-round implementation, these policies were, unfortunately, restrained in a deadlock. *EU Energy, Transport and GHG Emissions: Trends to 2050, Reference Scenario 2013* reported in January, 2014 set forth the 2050 climate and energy targets. Countries in East and Central Europe like Poland then expressed fierce oppositions, followed by South European countries in more or less subtle ways. Negotiations, therefore, is stuck. The EU is exposed to an unpromising prospect in climate governance. Given the pressure from internal disputes and the international community, it will not be a reality-based choice to maintain commitment to the triple target of emission reduction, renewable sources and energy efficiency. Instead, the EU must thread a fine line, which means to embark on exploring a new model of climate and energy governance risking the desertion of the current policy framework if the EU wants to give further negotiations a go. Finding the balance between an ambitious goal with an ambitious timetable and the grudging, delayed implementation of policy by member states is the biggest concern unfolding before the EU right now (Kou and Song, 2014).

4. INSIGHTS FROM EU'S CLIMATE GOVERNANCE

China, one of the world's largest economies, is like some European countries facing a dilemma of how to strike a balance between the economic growth and sustainable development especially GHG emissions reduction. The EU, a forerunner in climate governance, provides valuable insights for China in the environmental cause. As the two are differently circumstanced, China must learn from the best in EU's exploration if it is to enhance its capacity of climate governance and give a big impression in the international community.

In the global level, China must actively engage itself in international cooperation and assert its influence in international climate governance.

The Chinese and international community give varied comment about China's performance in global climate governance. Chinese scholars, media and officials tend to be thinking that China is an active participant in international cooperation and a major contributor to the world's climate improvement, while western countries seems to disapprove of China's involvement, alleging that China behaves in a self-contradictory and perfunctory way in global climate negotiations or that China has no awareness of the seriousness of climate changes. Obviously, China's efforts for climate governance are misapprehended. This situation resulted from the following aspects: China is not yet aware of its leaderships that are worth exercising in international issues; it keeps a low profile in climate governance, leaving its commitment unseen by the international community and thus not asserting much influence as it should have; it falls behind in international cooperation (Liu, 2016).

Therefore, China must introduce to the globe its climate governance action plan. Given the development of EU's leadership in international climate events, China should, on one hand, enhance international cooperation in climate governance. Through communication with developed countries, China gets involved in making international climate rules where it shares responsibility, while climate assistance and South-South cooperation will be reasonable stages to boost climate cooperation with other developing countries. On the other, China must establish sound climate diplomacy as EU does. A thorough study of foreign public mindset in information reception and the full playing of multiple media including television, internet and newspapers in the dissemination of climate discourse information will nourish an enabling mode of discourse to present a responsible China with loads of commitment and success to the international community.

In the domestic level, China must establish a reality-based mode of climate governance and rule of law.

In recent years, China's government has started to devote attention to climate governance. In 2007, the central government put forward the basic principle of mitigation and adaptation. The 12th Five Year Plan (2011-2015) passed in 2011 placed emphasis on the urge to "speed up research and development of adaptive technology, making agriculture, forestry and water immune to climate changes, and strengthen adaptive capability to confront climate changes especially extreme climate events." But in terms of specific policy measures or actions, China is still far from the center of climate governance with a fragmented mechanism. Based on both EU's governance experience and China's domestic reality, this article gives priorities that China's government needs to handle first.

Step up the development of a legal system for climate governance. China must make it a strategic priority to legislate climate governance, with specific approaches, principles, goals, tasks and guidelines covered. This entails the establishment of a *Responsive Climate Change Law* by the central legislative branch. Furthermore, *Environmental Protection Law*, *Environmental Protection Tax Law*, *Air Pollution Prevention and Control Law* and other related legislation must work for climate governance and make adaptation accordingly. Local legislative branches also need to exercise climate governance approaches to make matching rules of implementation based on the *Legislation Law*. Significantly, local efforts in legislation set foundations for future central legislative work.

Strengthen capacity for climate governance by means of technology innovation especially energy innovation. The safe and steady supply of energy secures a growing, healthy economy and a peaceful and prosperous society. Currently, EU's governance boasts technology innovation and the development of new energy and the renewables. As a large economy, China has enormous demand for energy and meanwhile undertakes international accountability of greenhouse gas emissions reduction. If China wants to achieve success in climate governance, it must manage to reconcile its domestic demand and international responsibility, the key of which would be ramp up efforts to accumulate investment in research and development, foster high-caliber talents and carry out in-depth disciplinary study. Innovation will enable energy saving and emissions reduction technology and the development of new energy, green energy and renewables. This will lead to the least impact humans impose upon climate and furthermore pave the way for a low-carbon economy.

Build infrastructure and platforms for climate governance. Infrastructure and platforms weight much in EU's climate governance, such as the EU-ETS that ensured the advanced completion of the EU's Kyoto targets. Since 2011, China has been exploring trials of carbon emissions trade in Shanghai, Beijing, Guangdong, Shenzhen, Tianjin, Hubei and Chongqing. Later in December, 2015, China announced at the Paris Conference a nationwide carbon emissions trading market to be launched in 2017. From the paradigm of EU's ten-year commitments to climate governance – from primary stage to across-the-board reform – China can learn how to enact policies and legislation concerning carbon emissions trading:

First, establish a legal framework of central governmental governance supplemented with local management.

Second, enact detailed rules for implementation and serious punishment scheme for carbon emissions trading.

Third, reinforce the closure of carbon emissions trading information and the participation of the public (Hua, 2017).

Hopefully, other infrastructure and platforms are expected to be constructed following a national carbon emissions trading system.

Establish a comprehensive governance network involving all parties from market and society. Climate governance is a centurial cause requiring not only legislation and policy by central government, but more importantly the participation of every individual. Accordingly, the EU has fostered a multi-tier governance mechanism. By contrast, China is at the present stage facing the absence of most social members and dividends between different regions, while as a whole, a climate governance network asks for the amalgamation of all regions, entities, social organizations and individuals in its formation and implementation. Inspired by EU's multi-tier governance, China needs to build an alliance of climate governance with Chinese characteristics in consideration of regional differences. Under the leadership of the central government, significant progress will be made in climate governance if all parties involved work together with a shared religion.

Climate governance, a long-term, integrated project that concerns the existence and well beings of future generations and the society they live in, demands scientific management with determination and perseverance for the harmony with nature. Such a historically beneficial cause cannot proceed without the cooperation between countries and/or regions, including the EU and China.

REFERENCES

- Albert, A. G. (2011, Dec. 2). United States an obstacle to progress in global climate talks. *World Economic Forum*, p.1.
- Bo, Y. (2012). *The trilateral relationship between China, US and Europe in global climate governance*. Shanghai People Publishing House.
- Bryan, T. (2016, Mar. 1). Response to Eduard Vermeers review of dams and development in China: The moral economy of water and power. *China Information*, pp.99-100.
- EEA. (2004). *Impacts of Europe's Changing Climate*. EEA Report No 2/2004, <http://www.eea.europa.eu/publications/climate-report-2-2004>.
- Fu, C. (2010). A study of EU's responsive climate governance. *Chinese Academy of Social Sciences*, 30-36.
- Fu, M. (2012). EU's responsive climate governance with a global vision: Policy-making model and contributing factors. *Chinese Journal of European Studies*, (1), 2012.
- Gao, X. S., Yan, S. W. (2012). Contributing factors behind EU's climate policies. *International Forum*, (5).
- He, J. K., et al. (Eds.) (2004). *A Compilation of translated versions of foreign laws on renewable energy*. People's Court Press.
- He, Z. G. (2016). EU's Legitimacy and its Legitimation Strategy. *World Economics and Politics*, (2).
- Hooghe, L., & Marks, G. (2003). Unraveling the central state, but how? Types of multi-level governance. *The American Political Science Review*, 97(2), 233.
- Hua, W. (2017). What China can learn from EU's legislative practice of its EU-ETS. *Energy and Environment*, (3), 2017.
- Kohler-Koch, B. & Rittberger, B. (2007). The 'Governance Turn' in EU Studies. translated and edited by Z. C. Wu & C. Pan (Trans. and Eds.), *Marxism and Reality*, (4).
- Kou, . N., & Song, X. N. (2014). EU's climate and energy policies: Analysis of current dilemma and projection of prospect. *International Politics*, (6), 2014.
- Lai, Y. L. (2011). Policy advocacy coalitions and international negotiations: Responsive proposals and activities of Chinese non-governmental organizations for the Copenhagen conference. *Foreign Affairs Review*, (3), 2011.
- Li, B. (2010). Establish the Chinese emissions trading system by learning from the EU-ETS. *China Development Observation*, (1).
- Liu, S. S. (2016). What China can learn from EU's dominance in climate governance?" *Deutschland Studies*, (2), 2016.
- Loughlin, J. (2001). Introduction: The transformation of the democratic state in Western Europe. J. Loughlin (Ed.), *Subnational democracy in the European Union. Challenges and opportunities* (p.2). Oxford: Oxford University Press.
- Silverstini, A. (2008). *Multilevel climate policy: National and local efforts in support of EU biofuel policies exemplified by Germany, the United Kingdom, Italy, and Finland* (p.13).
- Wiener, A. & Risse, T. (2009). European integration theory (pp.224; L. Q. Zhu, Trans.). World Affairs Press.
- Wu, Z. C., & Wang, Y. Q. (2017). Germany's governance with a global vision: ideas and strategies. *World Economics and Politics*, (5).
- Xie, L. (2012). Why EU Leads in Climate Governance. *World Economics and Politics*, (8).
- Ye, J. (2014). An analysis of the ideals, practice and influence of EU's climate governance in the global climatic landscape. *Chinese Journal of European Studies*, (3), 2014.
- Yin, M., & Zhang, T. F. (2016). What China can learn from EU's energy technology innovation strategy for the development of energy internet. *Electric Power Information and Communication Technology*, (3).
- Zhang, M. (2015, November). An Analysis of the 2030 EU Climate and Energy Framework. *Journal of Graduate School of Chinese Academy of Social Sciences*, (6).
- Zhang, R., & Zheng, L. P. (2014). Policies and Regulations of Low-carbon Economy Development in EU Countries. *Academic Forum*, (36).
- Zhao, C. (2010). EU's Democratic Deficit and Democratization. *Chinese Journal of European Studies*, (3).
- Zhu, G. C. (2009). *Theory of multi-level governance and European integration*. Shandong University Press.