



**Climate policy as common ground for cooperation:
Sino-Danish cooperation in the Danish Energy Partnership
Programme**

A case study of possibilities and limitations for policy-transfer and
policy-learning

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Abstract

The Intergovernmental Panel on Climate Change (IPCC) 2023 Sixth Assessment Report accentuates international cooperation to mitigate climate change. Meanwhile, geopolitics, the economic slowdown, and security issues challenge how international affairs are approached. This paper seeks to explore climate policy as common ground for cooperation despite profound challenges between the People's Republic of China and the European Union. How climate policies and objectives are transferred between policy actors will be examined through a case study: Denmark's bilateral energy cooperation with China in the Danish Energy Partnership Programme (DEPP). The analytical objective is to elucidate how policy-transfer and policy-learning feature in climate cooperation. Utilizing a qualitative dataset of an expert interview combined with Academy of Macroeconomic Research's 2021 China Energy Transformation Outlook, this paper will explore the mechanisms in policy-learning and transfer. The analysis is followed by a discussion of the impact of external factors, covering the role of the European Union. Denmark's partnership with China showcased the advantages of policy-learning and policy-transfer in favor of global climate cooperation. It was found that bilateral cooperation on policy formulation through policy-learning circumvents undesirable impact from external factors. Because the adverse effects of climate change cause global impacts, it was discovered that policy actors agree on depoliticizing climate policy to the greatest extent. This paper contributes to an underdeveloped field by providing a thorough analysis of how external factors affect bilateral collaboration.

Keywords: Danish Energy Partnership Programme, Sino-Danish cooperation, Sino-EU cooperation, climate policy cooperation, policy learning, policy transfer, government-to-government cooperation

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List of abbreviations

CETO: China Energy Transformation Outlook

CNREC: China National Renewable Energy Centre

CREO: China Renewable Energy Outlook

DEA: Danish Energy Agency

DEPP: Danish Energy Partnership Programme

EU: The European Union

FYP: Five-year-plan

GHG: Greenhouse gas

G2G: Government-to-government

NECP: National Energy and Climate Plan

PRC: People's Republic of China

RE: Renewable energy

UN: United Nations

Introduction

The Intergovernmental Panel on Climate Change (IPCC) recently launched their 2023 report on climate change. Alarming details about the adverse effects of climate change together with predictions about extreme weather emphasize the need for climate action. The IPCC accentuates international cooperation to accelerate climate action and to develop green technology¹. Meanwhile, political issues and geopolitical tensions are distorting the global political sphere, changing and challenging the way global cooperation is approached.

“We can only meet the challenges of climate change globally and this cannot be done without China”²

The EU President, Charles Michel, and China’s President and General Secretary of the Chinese Communist Party (CCP), Xi Jinping, met in December 2022. On the agenda of discussion were climate change, energy crises, geopolitics, and the economic slowdown; all topics that require constructive bilateral dialogue and action. China and the EU agreed that global cooperation on the adverse effects of climate change is urgent. China’s vast political and economical influence makes it an indispensable partner in climate action³.

The People’s Republic of China and the European Union hold significant economic and political capacities, rendering collaboration on climate policy-making and development of green technologies crucial. Both powers have announced ambitious goals based on the United Nations’ 2015 Paris Agreement. China’s decarbonisation goals include reaching carbon neutrality before 2060 with peaking emissions in 2030⁴, while the EU aims for climate-neutrality by 2050⁵. Their joint efforts are reflected in the 2020 EU-China Strategic Outlook, and the EU-China Strategic Agenda for Cooperation, respectively. The Paris Agreement’s central goal of keeping a global temperature rise below 2 degrees Celsius above pre-industrial levels guides the Sino-EU collaboration whilst efforts to promote the green transition are outlined in the ‘2020 EU-China Strategic Outlook’ (2019):

¹ “IPCC Press Release Urgent climate action can secure a liveable future for all” 2023

² “Remarks by President Charles Michel following the meeting with Chinese President Xi Jinping” 2022

³ “Remarks by President Charles Michel following the meeting with Chinese President Xi Jinping” 2022

⁴ “China’s climate change policies” 2022

⁵ “EUROPEAN COMMISSION Brussels, 11.12.2019 COM(2019) 640 final COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE” 2019

“Our partnership is essential for the success of global climate action, clean energy transition efforts and ocean governance. A commitment by China to peak its emissions before 2030 would give new impetus to fighting climate change in line with the Paris Agreement and inspire action globally”⁶.

The means are reflected in the 2020 EU-China Strategic Agenda, section III ‘Sustainable Development’ presenting the key initiatives in different areas of cooperation, including but not limited to, energy, climate change, and environmental protection. Measures on energy cooperation include further exploration of “cooperation in low-carbon energy technologies, which will support sustainable growth” and to “Reinforce cooperation in energy regulation in order to share experience and promote best practices both regionally and internationally, thereby enhancing consistency in energy policy-making in each country as well as the efficiency of the energy market [...]”⁷. Methods to cooperate on climate change and environmental protection are, inter alia, to “cooperate on achieving a strategic policy framework of green and low-carbon development for actively addressing global climate change, improving the quality of the environment and facilitating business-to-business cooperation within the green sector” and to “[...] Develop low carbon technologies to promote extensive use of renewable energy to reduce consumption of fossil sources of energy and corresponding emissions”⁸. It is clear that the EU and the PRC are aware of the importance of climate cooperation. The above-mentioned examples indicate cooperation through exchange of knowledge to create sufficient policy frameworks.

Points of discord

Despite similar objectives, the Sino-EU relationship does not circumvent complex political and geopolitical challenges. Various points of discord are causing tension between the EU and China. According to the EU, the Sino-EU relationship has increasingly deteriorated due to “China’s counter-measures to EU sanctions on human rights, economic coercion and trade measures against the single market, and China’s positioning on the war in Ukraine”⁹. The complexity of the Sino-EU relationship also derives from diverging opinions on how to access climate change. The EU’s objective regarding global cooperation is to

⁶ “EU-China – A strategic outlook” 2019

⁷ “EU-China 2020 Strategic Agenda for Cooperation” 2013

⁸ “EU-China 2020 Strategic Agenda for Cooperation” 2013

⁹ “EU-China Relations factsheet | EEAS Website”

uphold and promote its own values such as democracy, human rights, and civilian matters¹⁰, whereas the PRC is concerned with promoting and maintaining sovereignty in international cooperation¹¹. According to China, the bilateral goal is to cooperate with the EU to “bring the two major civilizations in the East and the West closer and set an example of different civilizations seeking harmony without uniformity [...]”¹². While both Beijing and Brussels embrace multilateralism, their diverging ambitions in the execution of it causes complications. In essence, European multilateralism appears to be concerned with shaping norms and fostering climate cooperation whilst the Chinese definition includes respect for countries’ sovereignty and non-interference in internal affairs in order to uphold climate cooperation¹³.

The EU’s understanding of norms are embedded in its assertive approach to foreign affairs. Brussels seemingly strives to remain the normative power shaping values and principles while trying to balance cooperation with China’s strategic interests. At the same time, the ambitious targets in the EU and China’s climate strategies call for global cooperation. Yet, The European attitude seems to collide with Beijing’s multilateral objectives of non-interference in internal affairs¹⁴ which might challenge joint commitment. Balancing political values and principles with climate related interests is not an easy assignment¹⁵.

Against the backdrop of the goals in the EU-China Strategic Outlook and the EU-China Strategic Agenda for Cooperation, discovering how EU member states plan to fulfill these will be carried out by examining Denmark’s ‘Danish Energy Partnership Programme’ (DEPP) in relation to China.

¹⁰ “Consolidated version of the Treaty on European Union”

¹¹ Chen

¹² “China’s Policy Paper on the EU” 2014

¹³ “Climate superpowers: How the EU and China can compete and cooperate for a green future – European Council on Foreign Relations”

¹⁴ Xing 2021, 2-10

¹⁵ “Climate superpowers: How the EU and China can compete and cooperate for a green future – European Council on Foreign Relations”

The case: Sino-Danish Government-to-government cooperation

China and Denmark have had ongoing bilateral cooperation on renewable energy since 2012. It is enabled by China's national energy authorities and China National Renewable Energy Centre (CNREC), and the Danish Energy Agency (DEA) working together on development, distribution, and use of renewable energy sources as well as knowledge-sharing on the green transition. The cooperation is in relation to China's energy strategy 'Four Revolutions and One Cooperation' aimed to transform the energy system. DEA's role is to assist the Chinese authorities and CNREC with Danish experiences and expertise on technology, construction, and administration of development programmes as well as advanced energy systems¹⁶. The partnership includes promising possibilities for both involved. As stated by Denmark's erstwhile minister for Climate, Energy and Building, Martin Lidegaard, the partnership comes with mutual benefits as Denmark has leading expertise in energy infrastructure and savings, and implementing renewable energy sources as part of the green transition. Simultaneously, the readjustment to a green energy system in China creates a market with interesting opportunities for Danish companies¹⁷.

China's decarbonisation goals are included in the government's 14th Five-year Plan which was endorsed by the National People's Congress (NPC) in March 2021. The Plan holds targets for all aspects of China's development until 2025. As the Plan does not include a specific GDP growth goal, it leaves room for pursuing targets related to climate change and environment. Along with this, China's energy strategy 'Four Revolutions and One Cooperation' delineates means and ends to transform the energy system to fulfill the 14th FYP's objectives¹⁸.

Denmark has had demonstrable success in reducing greenhouse gas emissions whilst maintaining economic growth. In 2022, 60 percent of Denmark's total electricity needs were covered by renewables whilst GDP increased 0.9 % in Q4 2022 heavily supported by the industry¹⁹. As required by the EU, member states are to present and adopt a National Energy and Climate Plan (NECP) to ensure fulfillment of the EU's climate targets. Denmark's NECP includes five strategies to maintain a leading position in renewable energy. They are as follows:

¹⁶ [Denmark and China Intensify Cooperation on Renewable Energy](#)

¹⁷ [Denmark and China Intensify Cooperation on Renewable Energy](#)

¹⁸ National Energy Administration 2021

¹⁹ Berggreen 2023

1. *Decarbonisation (greenhouse gas emissions and removals)*: A legally binding target to reduce greenhouse gases by 70% by 2030 relative to 1990 level, and to reach net zero emissions by 2050 at the latest.
2. *Decarbonisation (RE)*: Initiatives to accelerate the transition to renewables in the energy and transport sector. Too, at least 55% RE in gross final consumption in 2030 which will contribute to the EU target for RE.
3. *Energy efficiency*: Initiatives and measures to reduce Danish energy consumption. This includes a subsidy scheme aimed at private enterprises and buildings together with renovation of public and private buildings to ensure energy efficiency.
4. *Energy security*: To ensure high levels of security, dependency on gas import from third countries shall be reduced through Denmark's increase in its' RE share, Denmark's domestic oil and gas production, and Denmark's cooperation with neighboring countries to maintain high interconnectivity. On top of this, increased flexibility in the energy system will ensure energy security. To support and increase the already high level of interconnectivity with neighboring countries, coordinated projects will continue. Denmark aims to integrate and uphold electricity markets and to develop cross-border markets, ensuring flexibility of the energy system.

Lastly, the ambitious greenhouse gas (GHG) reduction targets require new technologies and solutions. Therefore, Denmark has committed to spend 1 billion DKK in 2024 on research, development and demonstration of new energy technologies. Further, the objective is to scale up export promotion activities in the energy sector, to a total of 174 million DKK by the end of 2024²⁰.

It is apparent that transforming the energy system is highly prioritized in the Danish NECP. A great deal of the initiatives and means build upon existing programmes in which Denmark holds expertise. Promoting this knowledge through bilateral partnerships will allow other countries to observe on-going energy programmes through lesson-drawing. For that reason, partnering with Denmark on the green transition can arguably provide some valuable nuances for domestic policy-making in other countries. The Danish policy recommendations to China clearly reflect this. Sino-Danish cooperation on decarbonisation is run through the

²⁰“Denmark's Integrated National Energy and Climate Plan under the REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on” 2019

Danish Energy Partnership Programme (DEPP) and two strategic sector programmes. To develop and improve conditions for renewable energy, the cooperation includes the following objectives: *1) long-term energy modeling and planning, 2) enhanced framework conditions for renewable energy including off-shore wind development, 3) integration of renewable energy and flexibility of the power sector, 4) energy efficiency and district heating, and 5) energy and climate policy development*²¹. As a means to evaluate delivery of the cooperation, the China Renewable Energy Outlook (CREO) and the China Energy Transition Outlook Executive Summary (CETO) provide annual insights. The reports include comprehensive analyses on how to ensure an efficient, low-carbon green transition in China. To support this, expert groups from DEA and CNREC cooperate on energy policy-making, methodologies, and tools to stimulate the use of renewable energy in the Chinese energy system.

Along with energy development, the partnership sets initiatives on energy efficiency and district heating, in which China's National Energy Conservation Centre (NECC) is involved.

Local authorities have been important stakeholders in capacity-building in local communities in China. By spreading information on efficient energy-use, relevant government agencies and decision-makers are able to increase their knowledge on energy planning. Last but not least, international actors such as the International Energy Agency, the Danish Trade Council, Danish Board of District Heating, Beijing District Heating Group and the CNREC are included to scale up green heating in China. Development of offshore wind and clean heating is promoted through two strategic sectoral programmes: The Sino-Danish Clean Heating Program, and Quality Offshore Wind Program. Denmark shares experiences on heat planning with Chinese government ministries, provinces, cities and through pilot projects, whilst best practice and regulatory solutions are shared by engaging with Chinese government agencies and relevant stakeholders²².

As ascertained, the success of reaching the decarbonisation targets is highly dependent on efforts by the member states and global exchange of know-how. Nonetheless, due to the troubled Sino-EU relationship, building consensus poses inherent challenges. In this context, this master thesis study will be analyzing Denmark and China's bilateral cooperation on green energy transition with the Danish Energy Partnership Programme

²¹ "China | Energistyrelsen"

²² "China | Energistyrelsen"

serving as the empirical example. The objective is first and foremost to examine how and at which governance level cooperation unfolds. Along with this, to identify challenges and opportunities for G2G cooperation together with the factors affecting exchange of knowledge and experience. Are the challenges too complex or can climate change policy be a common ground for global cooperation? Traditionally, studies concerned with policy transfer and policy learning focus on the analysis of specific factors that influence the way and the degree of to which one country learns from another in a certain policy-making area²³. Hence the decision to emphasize the European Union's role in the analysis of government-to-government cooperation.

Problem formulation and research questions

In the light of the considerations above, this master thesis study will focus on climate policies as a common ground for cooperation despite profound challenges between the European Union and the People's Republic of China. The analytical objective is to explore how cooperation is performed through policy-learning and policy-transfer between Denmark and China. The challenges and opportunities, and the role of the EU, are examined to understand the impact of external factors on learning and transfer. To encapsulate the research topic "*Climate policy as common ground for cooperation*", the research questions are as follows:

How are climate policies and objectives transferred between The European Union, Denmark, and the People's Republic of China? What drives and limits Sino-Danish cooperation in a policy-transfer and policy-learning perspective, and (how) do these factors impact climate cooperation?

Background information of the climate strategies

To understand Beijing and Brussels' basic rationales in regard to climate action and global cooperation, the following section will outline the Chinese and the European objectives, respectively.

²³ Caramani 2008, 512

The European Green Deal and Denmark's National Energy and Climate Plans (NECP)

The European Green Deal is the blueprint for the European continent's road to decarbonisation towards 2050. The European Commission's basic rationale of the plan is to become "the first climate neutral continent" and to "transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy"²⁴. The Deal is a comprehensive strategy covering a wide range of sectors, counting climate, energy, agriculture, transportation, industry, research and innovation, environment, and financial development. As a means to reach the objectives, the Commission heavily emphasizes bilateral cooperation. In this context, the EU's role is to mobilize its neighbors and partners to enter sustainable partnerships. Too, the EU intends to ally with "like-minded" states, however, it "recognises the need to maintain its security of supply and competitiveness when others are unwilling to act"²⁵. The delicate balance between climate policy and security policy illustrates the complexity of bilateral cooperation with Beijing.

The Green Deal was presented in December 2019. Since then, all of the 27 member states have committed to its goals. To consolidate commitment, the 2050 climate neutrality target was written into binding legislation through the Climate Law by March 2020²⁶. Whilst the overall decarbonisation framework is issued by the EU Commission, the member states bear the responsibility of presenting and revising national plans (NECP's) in line with the Green Deal's objectives. Denmark's National Energy and Climate Plan was presented on December 20th 2019. The NECP holds the following decarbonisation targets: "The Government's objective for 2030 is to reduce greenhouse gasses by 70%, relative to 1990 levels and the long-term objective for Denmark is to obtain net-zero emissions no later than 2050"²⁷. To meet the EU's objective of decarbonisation through the use of renewable energy sources, the Danish NECP includes reaching a 55 % renewables share in 2030. Despite Denmark's position as a frontrunner in renewable energy, the ambitious 70% reduction goals force the country to cooperate with international stakeholders in favor of technology and

²⁴ "EUROPEAN COMMISSION Brussels, 11.12.2019 COM(2019) 640 final COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE" 2019

²⁵ "EUROPEAN COMMISSION Brussels, 11.12.2019 COM(2019) 640 final COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE" 2019

²⁶ "EUROPEAN COMMISSION Brussels, 11.12.2019 COM(2019) 640 final COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE" 2019

²⁷ "Denmark's Integrated National Energy and Climate Plan under the REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on" 2019

solutions. Denmark's government-to-government cooperation counts 24 countries, including China²⁸, that facilitates exchanging and sharing knowledge across borders.

China's climate and energy strategy

China has officially pledged to become carbon neutral before 2060 with peaking greenhouse gas emissions before 2030. The goals are outlined in the 'Mid-century long term low greenhouse gas emission development strategy' together with the Chinese government's 'Enhanced Actions on Climate Change: China's Intended Nationally Determined Contributions', Oct. 2021. The targets are "[...] to have CO₂ emissions peak before 2030 and achieve carbon neutrality before 2060; to lower CO₂ emissions per unit of GDP by over 65% from the 2005 level, to increase the share of non-fossil fuels in primary energy consumption to around 25%, [...] and to bring its total installed capacity of wind and solar power to over 1.2 billion kilowatts by 2030"²⁹. The decarbonisation targets involve two parallel challenges, according to Beijing. One task is shifting the growth drivers and optimizing the economic structure to transform China's growth model, whereas the other is related to the the global political sphere, in which Beijing sees a rise in "unilateralism, protectionism, and anti-globalization"³⁰. If not properly addressed, these issues can slow global collaboration and eventually hinder China in attaining its targets. China's decarbonisation goals are supported by the Four Revolutions and one Cooperation³¹.

The Four Revolutions and One Cooperation is China's comprehensive energy framework that outlines China's path towards decarbonisation through four reforms. They are as follows: *1. Energy Consumption - Comprehensively promote the reform of energy consumption patterns, 2. Energy Supply - Build a diversified and clean energy supply system, 3. Energy Technology - Give full play to the first driving force of technological innovation, and 4. Energy Systems - Energy system and market reforms release market vitality*. Similar to the EU and Denmark, achieving such progression calls for international cooperation. In addition to the four reforms, the plan emphasizes a final measure: "*International cooperation - Comprehensively strengthen international energy cooperation*"³². The core principle

²⁸ "24 Countries Cooperations Green Transition"

²⁹ Jinping

³⁰ Jinping

³¹ Jinping

³² National Energy Administration 2021

guiding China's approach is embedded in the first point stating that international cooperation shall follow the core principle of mutual benefit and win-win. The thought of carrying out cooperation in a respectful manner beneficial for all stakeholders may improve the possibilities for learning and transfer of policies. Moreover, to promote mutualistic outcomes, the plan includes means such as "*smooth energy trade and investments; relax foreign investment access; promote energy trade and investment liberalization and facilitation*"³³. In the long run, it reflects how Beijing intends to access and govern global climate cooperation with their counterparts. Thus, it is assumed that the Sino-Danish partnership is approached in a similar manner.

Literature review

To capture existing knowledge of the area of interest it was essential to do a review on previously conducted research on climate cooperation between China, Denmark, and the European Union (EU). Additionally, a review of the existing studies of policy-learning and policy-transfer in bilateral and multilateral cooperation was necessary. A literature review allows us to identify some of the gaps in the existing research on the topic that this study can potentially fill. Reviewing literature provides information that can guide the direction of themes to search for. This study adopts a systematic approach since the literature review is based on the following question: "what is known about the opportunities and challenges in Denmark's cooperation with China vis-a-vis climate change?" and "What is known about challenges and opportunities in regard to policy-transfer and policy-learning?"³⁴. The questions are left open in order to attain a basic understanding of the already identified challenges of Sino-Danish climate cooperation. According to Tranfield et al., the systematic approach "provides a more reliable foundation on which to design research, because it is based on a more comprehensive understanding of what we know about a subject"³⁵.

The reviewing process involved looking up climate cooperation between Denmark and China to grasp what is already known about the topic. Searching was facilitated through Aalborg University's library database, AUB, and keywords included "China", "Denmark",

³³ National Energy Administration 2021

³⁴ Bryman 2012, 105

³⁵ Bryman 2012, 105

“cooperation”, “policy learning”, “policy transfer”, and “government-government cooperation”. First, the search revealed a study with a similar scope of problem:

Policy Translation and Energy Transition in China, in ‘The Oxford Handbook of Translation and Social Practices’ by Jørgen Delman (2020) ³⁶

The study examines how international policy-learning is utilized in the Sino-Danish cooperation on the green energy transition. The empirical foundation is a combination of multiple policy documents together with expert interviews conducted through snowballing. The objective is to understand how policy challenges related to the policy cycle, that means agenda-setting and policy implementation, are complicating Sino-Danish collaboration. The study includes several findings important to the present research. First, government-to-government cooperation was perceived as entailing fewer communication problems than multilateral cooperation. Moreover, cooperation with the Danish Energy Agency (DEA) was preferred by Chinese policy makers due to its neutrality and non-commerciality. This informs about the advantages of cooperating on a governmental rather than supranational level. The study also found that international policy-learning increased Chinese policymakers’ support for cooperation.

As the focal point of Delman’s study is in implementation of domestic policies deriving from bilateral cooperation, information about how supranational problems challenge Sino-Danish cooperation is omitted. It leaves an error of information about external factors that this study aims to cover by including a third actor, namely the EU. In addition, since Delman’s research was conducted in 2020, it must be assumed that the case has developed as the cooperation is ongoing. Moreover, that data has been updated, including annual reports. While this study relies on the China Energy Transformation Outlook 2021, Delman’s research uses the China Renewable Energy Outlook reports published before 2021. Meanwhile, the world is facing an energy crisis together with political tensions and an increased focus on security issues linked to energy policies. These factors are assumed to have changed some aspects of climate cooperation which will be taken into account in this master thesis.

³⁶ Delman 2020

Survey of Danish Companies in China: Challenges And Opportunities. Royal Danish Embassy in Beijing, Thierry Hoppe, Dmitrij Slepnirov, Mathias Severin Boyer, and Mads Vesterager Nielsen, (2020)

Another study of significance is the ‘Survey of Danish Companies in China: Challenges and Opportunities’, June 2020, by Mads Vesterager Nielsen, Thierry Hoppe, Dmitrij Slepnirov, and Mathias Severin Boyer³⁷. The study examines the regulatory conditions for Danish companies in the Chinese market in order to identify challenges and opportunities. While analytical attention is given to Danish companies in general, this master thesis study differs by narrowing the subject of analysis to a single case. Yet, findings of the survey are extracted in order to understand the current challenges for cooperation with China.

Vesterager et al. identified three top challenges based on online interviews: compliance and business ethics, human resources (HR), and intellectual property rights (IPR)³⁸. These findings guide this study in the direction of themes worth paying attention to - both in the process of constructing an interview guide and when conducting the semi-structured interview. If similar findings are done in this study, generalizability of challenges is increased. Whilst Vesterager et. al. base the analysis on the perspective of the business community and the competitive climate as focal points, it leaves room for examining the challenges from the perspective of policy-actors. As the data on the 2020 study was based on a large comprehensive data set conducted online, the generalizability of the findings is increased. However, this method does not facilitate elaborating on the respondents' answers, which this study aims to do to obtain in-depth understanding of the challenges.

To sum up the findings of the studies, they both persuade to answer the initial question asked in the systematic approach: “What is known about the opportunities and challenges in Denmark’s cooperation with China vis-a-vis climate change?”. The findings add valuable information from different sides engaging with China. It has served to inform this study in a direction of significant and relevant themes when collecting and analyzing data. The fields of climate and energy policy and technology develop rapidly and in light of the current energy landscape, it must be assumed that studies conducted three years ago

³⁷ Hoppe et al. 2020

³⁸ Hoppe et al. 2020

exclude important nuances about today's political climate. Thus, this study aims to draw upon those findings to fill the academic void related to external challenges' impact.

Policy learning and Policy Change: Theorizing their relations from different perspectives.
Stéphane Moyson, Peter Scholten, and Christopher M. Weible (2017)³⁹

To understand existing approaches to policy-learning theory, '*Policy learning and Policy Change: Theorizing their relations from different perspectives*' (2017)⁴⁰ is included in the review. The paper seeks to explore various definitions of policy-learning and how policy-learning processes eventuate policy change. Dunlop and Radaelli define policy-learning as "adjusting understandings and beliefs to public policy", whereas Heclo argued that policy-learning is important for governments to handle uncertainties⁴¹. This is supported by Deutsch who found that constant feedback mechanisms guide governments in policy-making processes through policy-learning⁴². The paper identifies two problems of studying the theme. First, policy-learning happens in a dynamic policy process. A process consisting of politically engaged individuals interacting to influence government decisions in relation to a topic. It informs that policy change is a result of several factors. Second, because policy processes do not happen in a vacuum but in institutional systems, examining the phenomena is complicated.

In continuation, errors in understanding the connection between policy-learning and policy change exist. The paper identifies two reasons why policy-learning is not conducive to policy change. Policy-learning only comprises a small part of the multifaceted reasons for policy change. Whilst learning is based on voluntary transfer of policies, coercive factors eventuate policy change too. In order to cover this procedural error, this study intends to add policy-transfer theory and the role of external factors (the European Union) to understand how diffusion of the EU's policies shapes Denmark's NECP. The second explanation of why policy-learning does not necessarily lead to policy change, is due to policy complexity. If policy issues are too complex for policy actors to understand, they will be considered less relevant. To understand how different policy actors cooperate to diminish policy complexity, Dolowitz and Marsh framework analyzes the constraints to policy-transfer and learning.

³⁹ Moyson, Scholten, and Weible 2017

⁴⁰ Moyson, Scholten, and Weible 2017

⁴¹ Moyson, Scholten, and Weible 2017

⁴² Moyson, Scholten, and Weible 2017

Finally, because policies can be a result of path dependency due to policy-actors' biases, information that does not challenge existing beliefs may shape policy-making. The accumulated critique directed towards the connection between policy-learning and policy change, can be summed up as: greater governmental intelligence does not necessarily lead to greater governmental effectiveness. Moyson et al. sketch out a conceptual framework to study the connection between learning and policy change. It is similar to the one of Dolowitz and Marsh' as it aims to capture the process of policy-learning. By analyzing who learns?, what is learned?, how do policy actors learn?, and types of change Moyson et al. seeks to discover the outcomes of policy-learning. Nevertheless, basing the analysis on this framework is not conducive for understanding external factors and constraints in the process. For that reason, Dolowitz and Marsh's much more comprehensive model will be adopted in this research to support the analytical objectives.

Whilst the review revealed interesting considerations, it is clear that the reviewed literature entails deficiencies. Although studying the connection between policy-learning and policy change motivates research, many unknowns about the inherent mechanisms in learning and transfer remain. Thus, covering the knowledge gap comprises this master thesis' 'license to operate'. Finally, another reason for settling on Dolowitz and Marsh' framework is the analytical focal point. As the reviewed paper directs its focus on micro levels (learning between individuals) and meso levels (learning across organizations), Moyson et al.'s framework would not provide sufficient explanations about government-to-government learning. Thus, it was decided to adopt a macro-level (learning across government units) approach to capture the mechanisms in policy-learning.

Theoretical framework

The following section outlines the theoretical body of the research. The purpose is to review the selected theories as well as to describe how these intend to be operationalized throughout the analytical process.

Policy-transfer

Dolowitz and Marsh coin policy-transfer as *“the process by which knowledge about policies, administrative arrangements, institutions and ideas in one political system (past or present) is used in the development of policies, administrative arrangements, institutions and*

ideas in another political system''⁴³. Yet, the process does not have to be a 1:1 adoption of a given policy as it can also be a slight change in the exchanged policy⁴⁴. Various forces counting globalization, international economics and trade, growth in communication platforms, and international organizations are some of the driving forces in policy-transfer across different political systems and countries. Together they enable policy-makers to look for inspiration abroad in the process of finding solutions to issues⁴⁵. In the context of this study, it can be argued whether the urgent need to combat the adverse effects of climate change adds a new dimension of pressure on policy-makers.

To operationalize the theory on cross national policy transfer, Dolowitz and Marsh outline a 'Policy Transfer Framework'. It includes eight analytical questions: 1) *Why transfer?* 2) *Who is involved in the transfer?*, 3) *What is transferred?*, and 4) *From where?*, 5) *Degrees of transfer*, 6) *Constraints on policy transfer*, 7) *How policy transfer is demonstrated*, and 8) *how transfer leads to policy failure*. Parts of the framework will be incorporated into the interview questions in order to explore which constraints affect transfer.

TABLE 1
A Policy Transfer Framework

Why Transfer? Continuum			Who Is Involved in Transfer?	What Is Transferred?	From Where			Degrees of Transfer	Constraints on Transfer	How To Demonstrate Policy Transfer	How Transfer leads to Policy Failure	
Want To.....	Have To				Past	Within-a Nation	Cross- National					
Voluntary	Mixtures	Coercive										
Lesson Drawing (Perfect Rationality)	Lesson Drawing (Bounded Rationality)	Direct Imposition	Elected Officials	Policies (Goals) (content) (instruments)	Internal	State Governments	International Organizations	Copying	Policy Complexity (Newspaper) (Magazine) (TV) (Radio)	Media	Uniformed Transfer	
	International Pressures		Bureaucrats Civil Servants	Programs	Global	City Governments	Regional State Local Governments	Emulation	Past Policies	Reports	Incomplete Transfer	
	(Image) (Consensus) (Perceptions) Externalities									(Commissioned) (uncommissioned)		
	Conditionality	Pressure Groups	Institutions			Local Authorities		Mixtures	Structural Institutional Feasibility	Conferences	Inappropriate Transfer	
	(Loans) (Conditions Attached to Business Activity)	Political Parties	Ideologies					Inspiration	(Ideology) (cultural proximity) (technology) (economic) (bureaucratic) Language	Meetings/ Visits		
	Obligations											
		Policy Entrepreneurs/ Experts	Attitudes/ Cultural Values								Statements (written) (verbal)	
			Consultants Think Tanks Transnational Corporations Supranational Institutions	Negative Lessons			Past Relations					

Figure 1: The policy transfer framework (Dolowitz and Marsh, 2000)⁴⁶

⁴³ Dolowitz and Marsh 2000, 5

⁴⁴ Caramani 2008, 512

⁴⁵ Dolowitz and Marsh 2000, 7

⁴⁶ Dolowitz and Marsh 2000, 9

The first question lies on a continuum arching between *want to* and *have to*. It means that policy-transfer manifests in coercive or voluntary/non coercive manners - or in between these. Voluntary policy-transfer is facilitated when policy-makers *want* to exchange policies through cooperation. It happens without pressure to do so and the process is often due to policy-learning, or in situations where policy-makers are unsure of which model to follow. While the success of transfer is high, so is the risk of flawed transfer due to hesitant decisions to adopt a policy without profound knowledge of its potential outcomes. Coercive transfer happens when policy-makers *have* to adopt certain policies due to external pressures from groups, policy entrepreneurs or political parties. Lastly, when policy transfer is located in the middle of the spectrum, the process generally includes lesson drawing based on bounded rationality and the pressure for transfer derives from international actors⁴⁷. Coercive and non-coercive transfer is demonstrated in the figure below.

From Lesson-Drawing to Coercive Transfer

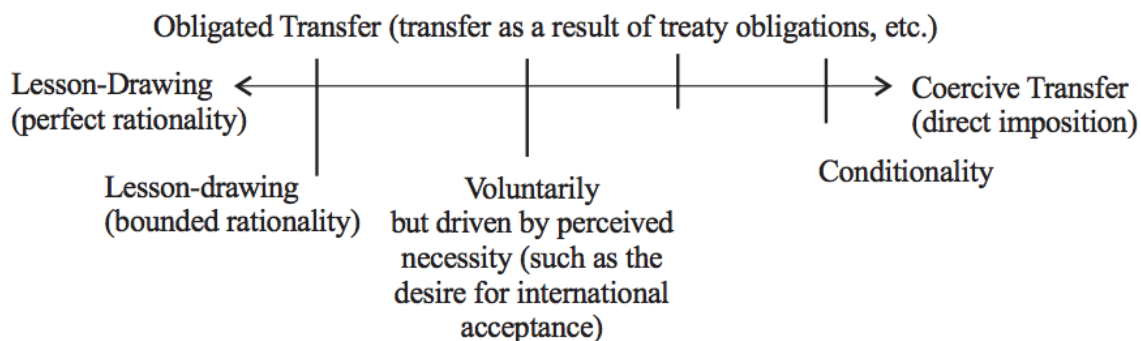


Figure 2: The policy-transfer continuum (Dolowitz and Marsh, 2002)⁴⁸

Multiple actors are involved in the process of policy-transfer, counting elected officials, civil servants, institutions, consultants, transnational corporations, and supranational institutions⁴⁹. Examining the stakeholders can help identify to which degree transfer occurs in order to understand the room for maneuver a country has in the process. Ideally this question can reveal who “teaches” policy and who receives policy lessons. Bomberg (2007) argues

⁴⁷ Dodds 2018, 118

⁴⁸ Dolowitz and Marsh 2000, 13

⁴⁹ Dolowitz and Marsh 2000

that teaching often derives from governments, policy entrepreneurs and middlemen, international organizations, and think tanks⁵⁰. However, it must be anticipated that the transfer of a policy is a far more complex process.

What is transferred and from where?

Dolowitz and Marsh identify eight different categories that can be transferred between political systems: policy goals, policy content, policy tools, policy programmes, institutions, ideologies, ideas and attitudes, and negative lessons. Where a policy lesson is drawn from depends on the type of actor involved. Roughly, transfer happens from what Dolowitz and Marsh define as past, within-a-nation, and cross national governance levels⁵¹. As the focus of this study is bilateral climate cooperation, looking to the cross national dimension is obvious. Cross national transfer happens to/from international organizations, city governments, and past relations. However, policy transfer is not limited to government-to-government interactions as policy makers also look to other subnational levels and units of governments⁵².

Degrees of transfer

Policy transfer is roughly divided into four degrees: 1) **Copying** is the direct and complete transfer of a policy from one political system to another. This type is often associated with coercive policy transfer. 2) **Emulation** refers to when an *idea* behind a policy or a programme is transferred. 3) The **combined** policy transfer involves several different policies whilst the fourth degree of transfer, **inspiration**, refers to “where policy in another jurisdiction may inspire a policy change, but where the final outcome does not actually draw upon the original”⁵³. Because the focus of transfer studies is on “*the analysis of the specific processes and factors that influence the way and degree to which one country learns from another countries with regard to policy-making in a certain area*”⁵⁴, this study aims to include the EU’s role. Due to the complex nature of policy-transfer, other components such as domestic factors, and regulatory legitimacy of the policies will also be kept in mind.

⁵⁰ Dodds 2018, 123

⁵¹ Dolowitz and Marsh 2000, 5

⁵² Dolowitz and Marsh 2000, 8

⁵³ Dolowitz and Marsh 2000, 9

⁵⁴ Caramani 2008, 512

Internationalization in policy transfer

Dolowitz and Marsh find that policy-transfer happens through affiliations, negotiations, and institutional membership. Thus, internationalization is one of the driving mechanisms. It is argued that sectors associated with externalities, in our case climate policy, are prone to international influence. Policy-transfer happening at this governance-level is referred to as internationalization and four core mechanisms behind the process are imposition, international harmonization, regulatory competition, and transnational communication⁵⁵. As the first is found within the category of coercive policy transfer and regulatory competition is concerned with competitive pressures in relation to regulative policies, attention is pointed towards the remaining two.

International harmonization is coined as “a situation in which member states voluntarily engage in international cooperation, and hence corresponds to ‘negotiated transfer’⁵⁶, meaning that countries will comply with uniform legal obligations defined by the supranational governance level. Too, that the need to resolve common problems through cooperation ties countries together. Once cooperation within the framework of a supranational institution is established, it either constrains or shapes the domestic policies⁵⁷. In regard to this study, Denmark’s commitment to the European Green Deal and the Climate Law is of importance as it is assumed that the commitment will impact the policies transferred from Denmark to China through cooperation. Too, it may constrain or challenge Denmark’s cooperation with China due to the EU’s deteriorated relations with China. Internationalization can also materialize through transnational communication. This concept is purely based on communication through lesson drawing, transnational problem-solving, emulation, and transnational promotion of policy models and programmes⁵⁸.

In situations where policy transfer fails to succeed, evaluating the points of discord will provide information of what needs to be changed in collaborations. The most common constraints for policy transfer are grouped into three categories: 1. Institutional factors including the organizational structures of a political system, (in)formal rules, and policy-making procedures. Each of these components will either ease or complicate transfer. 2. Cultural factors referring to how a policy discourse is developed, interpreted and integrated

⁵⁵ Caramani 2008, 513

⁵⁶ Dolowitz and Marsh 2000, 15

⁵⁷ Caramani 2008, 513

⁵⁸ Caramani 2008, 515

into the domestic policy-making process. 3. Socioeconomic factors refer to a state's general capacity for policy actions⁵⁹. As argued by Dolowitz and Marsh, these factors are present when transfer happens through policy-learning, in particular lesson-drawing.

To conclude the theoretical framework of policy transfer, the objective of analyzing policy transfer is to understand the underlying causes and contents and singular processes of bilateral policy exchange. This aligns with the intention to understand the challenges and opportunities of Denmark's cooperation with China on decarbonisation. Further, how the EU as a supranational institution, setting the overall policy framework, may affect transfer of policies between Denmark and the PRC.

Global pressures on environmental policy-making

There are various reasons to consider the impact of international influence on domestic environmental policy-making. The most adjacent one is the ability of environmental flows to cross borders and result in environmental damage in another country. Further, since the adverse effects of climate change impact what is referred to as "global pool resources" it obliges policy actors to engage in global climate policy cooperation. In order to fully engage and to construct a joint policy framework, the involved parties will have to pool sovereignty with each other to ensure commitment. According to theory, it is due to "*the fact that no one consumer of common pool resources has, in the absence of rules restricting consumption, any incentive to keep their consumption within bounds*"⁶⁰. International agreements demonstrate multilateral attempts to protect common pool resources and to set up equal environmental standards for the countries involved⁶¹. In relation to this study, the EU's binding European Green Deal and the UN's Paris Agreement evince such attempts.

Policy-learning

Aforesaid policy-learning is most likely to occur when policy-transfer happens in voluntary or mixed manners. Policy-learning is demonstrated in various ways including lesson-drawing, benchmarking, and best practice. Whilst lesson-drawing allows policy-makers to move beyond trial and error based learning from own experiences of what might not work, towards direct observation of ongoing programmes or policies, the remaining

⁵⁹ Caramani 2008, 512

⁶⁰ Dodds 2018, 274

⁶¹ Dodds 2018, 275

two are concerned with comparison of specific policies in different countries⁶². The practical procedure of policy-learning involves policy-makers to create a comprehensive model of the policy they wish to learn from. Yet, observing the underlying processes of a given policy is difficult and may lead to policy failure. Lesson-drawing is more likely to succeed in technical policy-making areas due to perfect rationality and transparency of the processes. When policy-makers learn through best practice, the process involves ranking the “best” policy approach, or identifying a policy that aligns with expectations. Benchmarking diverges in the way that it does not involve labeling one specific policy as superior⁶³.

Compared to policy-transfer that is concerned with *what is transferred*, policy-learning places its interest on *what is learned* through transfer. Theoretically a distinction between two sorts of policy lessons is made. One is about policy tools, strategies, tactics and means, and the other is concerned with policy goals. Learning can also be demonstrated in a less organized manner where policy-makers use feasible policy examples to promote their objectives. In continuation of this, it is obvious to examine the direction of policy interaction. Bomberg (2007) outlines four types of teachers. Local and national governments that are promoting programmes or policies to other governments. This is enabled by political contracts, or expert advice via consultancies. This category relates to the selected case in this thesis, as policy-learning materializes through cooperation between the Danish Energy Agency and the Chinese Energy Authorities. The second policy “teacher” refers to policy entrepreneurs including international consultants, professional groups, and epistemic communities consisting of experts of a specific policy area, that provide policy solutions based on their professional knowledge and experience⁶⁴.

Enablers and barriers

The enabling components of policy-learning are roughly divided into three categories: *proximity*, *power* and *competition*⁶⁵. In relation to this study, the categories will be utilized to understand *if* and *how* lack of one of these components is complicating or enabling bilateral collaboration and policy-learning with China.

⁶² Dodds 2018, 120

⁶³ Dodds 2018, 121

⁶⁴ Dodds 2018, 123

⁶⁵ Dodds 2018, 124

Proximity refers to both geographical, ideological, and cultural proximity. According to theory, the success of policy-learning is increased in neighboring countries. Especially policy-transfer and policy-learning in the shape of emulation is likely to happen because the policy comparator is located nearby. It is assumed that the implied policy makers are more keen on adopting policies or programmes from nearby countries due to the countries' similarities. Cultural proximity is determining for learning and in some cases, it may outweigh the geographical proximity when it is connected to language. In this study, the differences in political culture may affect the chances for good policy-learning due to contrasting norms or standards in how Denmark and China do politics. Yet, in practice, policy-making is far more affected by political interests and political power and the impact of cultural proximity must therefore be considered in the attempt to understand the obstacles for policy-learning. Power in policy-learning determines the direction of policy-learning and transfer. As power manifests itself in cultural, economic, political etc. capacities, it can cause imbalances in bilateral cooperation⁶⁶.

In situations where policy-learning fails to succeed it is often due to a number of barriers. A significant factor is the degree of redistribution of resources a certain policy needs. This is because of the differences in (socio)-economic resources a country poses as described in policy-transfer theory. Further, if a policy requires profound ideological changes or if it does not align with policy makers' belief system, the policy is less likely to be adopted⁶⁷. Bearing this in mind will help understanding why bilateral cooperation in highly politicized areas can be challenging. Other complications to policy learning count language barriers in terms of translating the programme or policy⁶⁸.

⁶⁶ Dodds 2018, 125

⁶⁷ Dodds 2018, 126

⁶⁸ Dodds 2018, 126

Methodology

This section will provide an overview of how the research topic of the present study will be approached. The methodological structure will work as the blueprint of the study to ensure thoroughness in the process of covering the research questions.

Research design: Case study

According to Bryman, the research design of a study reflects how the researcher chose to access the analysis of data to examine, inter alia, behaviors in the specific context chosen by the researcher⁶⁹. This explanation aligns with the objective of this study. The intention is to capture how behaviors related to certain challenges impact bilateral climate cooperation. To obtain a deeper understanding and to answer the research questions, the case study was chosen as the structure of this study. The selected case study is the Sino-Danish ‘Danish Energy Partnership Programme’ (DEPP) which serves as the empirical example of where and how cooperation on the adverse effects of climate change is performed. Looking into the specific case allows one to intensely examine the complexity of the cooperation, and to analyze possibilities and limitations.

A case is most commonly associated with “a location, such as a community or organization”⁷⁰. Bryman further elaborates on the term ‘case study’ and defines it as “instances where the case is the focus of interest in its own right”⁷¹. It aligns with the empirical case. Focus is primarily centered around the case itself, and how multiple dynamics are affecting the possibilities and limitations in the case. Furthermore, the case study is characterized by the researcher’s attempt to elucidate the unique features of the chosen case, which is referred to as the “idiographic approach”⁷². This corresponds with the aim of analyzing the possibilities of Sino-Danish cooperation. The selected case can be characterized as a representative or exemplifying case. This is because it serves as an example that “will provide a suitable context for certain research questions to be answered”⁷³. In addition, the exemplifying case in this study was chosen due to the researchers’ personal curiosity vis-a-vis the possibilities for policy-learning in climate cooperation. Therefore, analyzing the selected case will allow testing specific theory and connect empirical data and theory. Yet, it

⁶⁹ Bryman 2012

⁷⁰ Bryman 2012, 68

⁷¹ Bryman 2012, 68

⁷² Bryman 2012, 69

⁷³ Bryman 2012, 70

can be argued that the selected case contains elements of the ‘critical case’ due to the hypothetical deductive approach of the present study. The critical case is a case in which “the researcher has a well-developed theory, and a case is chosen on the grounds that will allow a better understanding of the circumstances in which the hypothesis will or will not hold”⁷⁴. The hypothesis of this study involves considerations on how certain issues, supranational and between governments, affect climate cooperation.

Assessing methodological quality through research criterias

Evaluating the quality of this master thesis is achieved by considering reliability, replication, and validity. The reliability criteria is concerned with whether the results are repeatable⁷⁵. Reliability of the research is strengthened through the use of data that is publically available. Due to the presence of the researcher in data collecting, the researcher cannot render conducted data in a fully neutral manner. However, the presence can be a strength as the dynamic dialogue may bring out more nuances in the respondent’s answers. Reliability can be strengthened in the processing of data that makes the interview data available to further research.

Replication bears similarities with reliability. It refers to the ability to replicate the findings of a research but ensuring replicability in social research is challenging⁷⁶. Therefore, describing the research process is an important measure. In this study, it is done by thoroughly outlining the research procedures. The interview guide plays a significant role in meeting the criteria of replicability and transparency. Yet, it is important to note that replicating a semi-structured interview is rather unrealistic due to the free format and flexibility of the method.

The last research criteria, validity, is concerned with “the integrity of the conclusions that are generated from a piece of research”⁷⁷. External validity informs us about the generalizability of the findings. As a consequence of the limited amount of data in this study, generalizability of the findings is naturally minimized. However, the objective of this study is not to draw conclusions that are applicable to a broader scope, but to understand the challenges and opportunities to a specific and delineated case. The nature of the deductive

⁷⁴ Bryman 2012, 70

⁷⁵ Bryman 2012, 46

⁷⁶ Bryman 2012, 46

⁷⁷ Bryman 2012, 47

research method and qualitative method is to move from the general to the specific, to apply the new knowledge to the theory of choice. The ability to connect variables of the research to examine causality is referred to as the internal validity. Internal validity presents the connectivity of the findings with the theoretical foundation of the research. This study does not outline specific variables to be investigated, yet it can be argued that the examination of the EU's role in Sino-Danish cooperation serves a similar purpose.

Limitations in the qualitative data can cause underrepresentation of other perspectives in this study. The most significant factor is limited access to Chinese studies on similar research because of language barriers. In addition, the choice to gather information from a Danish respondent in the semi-structured interview. Nevertheless, because the 2021 CETO report entails objectives from both sides of cooperation, it can be argued that the Chinese perspective is represented. The theoretical framework comes with natural constraints. Because the analytical focus is on the macro-levels of learning and transfer, it leaves out how learning and transfer is facilitated in other areas of Sino-Danish cooperation. The ability to draw any conclusions about the outcome of the cooperation, known as “policy convergence” is left undiscovered too. Policy convergence is defined as “any increase in the similarity between one or more characteristics of a policy. This means any change in the use of policy tools, objectives or settings”⁷⁸. Along with this, because the case is an ongoing project, it is impossible to grasp the full outcome and possibilities of learning and transfer. Fully encompassing this issue would require an extended time frame and an extensive amount of longitudinal data to fathom the full impact of policy learning between DK and China.

Hypothetical deductive method

The initial idea of this research arose from academic interest together with theoretical considerations. As reflected by Bryman, the basis of “*what is known about in a particular domain and of theoretical considerations in relation to that domain, deduces a hypothesis or hypotheses that must then be subjected to empirical scrutiny. Embedded within the hypothesis will be concepts that need to be translated into researchable entities*”⁷⁹. With this characterisation in mind, the research method of this study can be defined as ‘hypothetical deductive’. The objective of the method is to deduce the hypothesis and operationalize theory in order to specify data collection. In this manner, the hypothesis is guided by theory and will

⁷⁸ Caramani 2008, 513

⁷⁹ Bryman 2012, 24

drive the gathering of data. In this study, the ideal types based on the chosen theory will form the interview questions in order to attain qualitative data including limitations and possibilities of global climate cooperation. This procedure will either support or abolish the hypothesis. Nonetheless, one can argue that this method entails inductive elements since new knowledge attained through the research will build upon the existing theory. Thus, adding to the cumulative knowledge resulting in an inductive movement⁸⁰. In case studies, theory is often associated with the choice of case which supports the logic of the deductive study. Nonetheless, as this study aims to cover the gaps of knowledge vis-a-vis the opportunities and challenges in Denmark's cooperation with China, it can be argued that this study bears inductive characteristics too. The logic of the deductive and inductive methods are illustrated in the figure below.

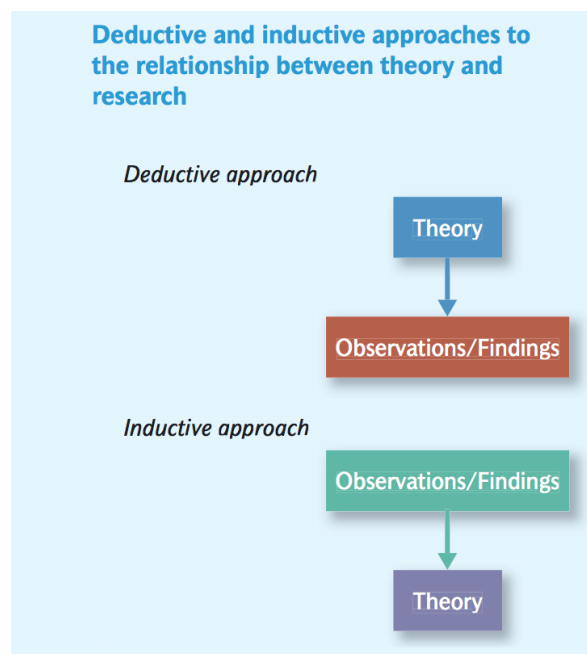


Figure 3. Inductive and deductive movement (Bryman, 2012)⁸¹

The underlying hypothesis guiding this study is that international matters may move downstream to smaller units, and thus affect government-to-government cooperation. In this context, the hypothesis assumes that issues challenging the Sino-EU relationship may cause distortions in the cooperation between China and Denmark. In addition, the literature review provides information which reveal some of the topics vis-a-vis opportunities and challenges that affect cooperation with China. This gives an idea of which themes to explore in the analysis of this study's qualitative data.

⁸⁰ Bryman 2012, 24

⁸¹ Bryman 2012

Choice of theory

To examine policy-learning at the macro-level, and in order to thoroughly analyze the selected case study of this thesis, Dolowitz and Marsh' 'Learning from Abroad: The Role of Policy Transfer in Contemporary Policy-Making (2000) comprise the theoretical foundation. Their approach includes a 'policy-transfer framework' that encapsulates the various steps and mechanisms inherent in policy transfer. Dolowitz and Marsh outline the following questions: **why transfer?, who is involved?, what is transferred?, from where?, degrees of transfer, and constraints**. These points will work as ideal types in order to link the empirical case study with theory. Policy-learning is a result of transfer and the theory will be covering enabling factors and barriers to learning in the Sino-Danish cooperation. Macro-level studies are concerned with the way ideas and knowledge diffuse between policy-actors which accentuates the relevance of the chosen theory. The objective is to understand and explain how policies are transferred from supranational to national governance levels. This will elucidate the constraints in upper governance levels that may diffuse to lower levels, and challenges in cooperation between DK and China. The theoretical frame will provide explanations about mechanisms, and whether mutual learning exists in the Sino-Danish cooperation. The analytical goal is to discuss the drivers, enablers and barriers in learning and transfer between Denmark and China.

To encapsulate the difference between policy-transfer and policy-learning, policy-transfer is concerned with *what is transferred*, whereas policy-learning focuses on *what is learned*.

Empirical data and actors

The units of analysis in this study are China, Denmark, and the European Union, respectively. To capture the supranational framework for climate cooperation between China and Denmark, it was deemed essential to include the basic political framework between the European Union and China, and the separate objectives of the three. The rationale behind this decision is the Danish membership of the EU, hence the Danish commitment to the European Green Deal. Focusing on a small-scale case as the Sino-Danish cooperation allows a richer analysis of climate cooperation. China's strategic cooperation with the EU serves as another argument for including the EU as a unit of analysis in this study.

The 2019 EU-China Strategic Outlook, and the 2020 EU-China Strategic Agenda for Cooperation makes the foundation of the multilayered relationship. To cover the individual climate targets and policies set by China and the EU, qualitative data from official policy papers, and political programmes and agreements are included. Together these documents reflect the Chinese and European individual objectives and rationales for international cooperation. The papers are officially published by the Chinese government and the European Union, respectively, and they are accessible to the public. Relying on these types of documents ensures a common perspective of Sino-EU cooperation since both actors are included. As argued by Bryman, documents published by governments and state organs provide authentic information, but can also reveal implicit political biases⁸².

Ends of cooperation are reflected in the 2019 EU-China Strategic Outlook while the 2020 EU-China Strategic Agenda for Cooperation' illustrates means. Both documents cover a wide range of areas, hence the decision to primarily focus on the sections targeting climate cooperation. The EU-China Strategic Outlook was published on March 12, 2019 by the European Commission and the High Representative (HR) of the Union for Foreign Affairs and Security Policy. Challenges and opportunities vis-à-vis China's political and economic landscape are reviewed. Following that, three strategies on how the EU shall respond are outlined: *1) Based on clearly defined interests and principles, the EU should deepen its engagement with China to promote common interests at global level, 2) The EU should robustly seek more balanced and reciprocal conditions governing the economic relationship, and 3) In order to maintain its prosperity, values and social model over the long term, there are areas where the EU itself needs to adapt to changing economic realities and strengthen its own domestic policies and industrial base*⁸³. To attain the above-mentioned, ten concrete actions are outlined. Relevant measures for cooperation are: Action 2: *In order to fight climate change more effectively, the EU calls on China to peak its emissions before 2030, in line with the goals of the Paris Agreement*. The target reveals the EU's perception of China as an equal player regarding climate policies as well as global collaboration is emphasized. It is elaborated in the the following line:

“China is a strategic partner on climate change and the clean energy transition, with whom we need to continue developing a strong relationship, given the sheer size of its

⁸² Bryman 2012, 541

⁸³ “EU-China – A strategic outlook” 2019

emissions (around 27 % of the global amount), which continue to rise. Our partnership is essential for the success of global climate action, clean energy transition efforts and ocean governance. A commitment by China to peak its emissions before 2030 would give new impetus to fighting climate change in line with the Paris Agreement and inspire action globally”⁸⁴.

The 2020 EU-China Strategic Agenda for cooperation follows up on the ends in the Strategic Outlook. Section ‘III. Sustainable Development’ reflects these objectives. As sustainable development is a matter for both parties, advancing in green growth is highly prioritized and innovation is emphasized. However, it is critical to cooperate on Intellectual Property Rights (IPR) to ensure effective development and deployment of innovative solutions and emerging industries⁸⁵. The Agenda holds strategies on cooperation in energy, and climate change and environmental protection. Cooperation on the first topic encompasses:

*1) Reinforce cooperation on energy issues, with a special emphasis on global energy security within the framework of the Energy Dialogue, 2) Implement a roadmap for EU-China energy cooperation, in order to reinforce exchanges and cooperation in fields of energy legislation, policy and standard formulation, 3) Further explore cooperation in low-carbon energy technologies, which will support sustainable economic growth, and 6) Reinforce cooperation in energy regulation in order to share experience and promote best practices both regionally and internationally, thereby enhancing consistency in energy policy-making in each country as well as the efficiency of the energy market [...]*⁸⁶

This section is noteworthy for its focus on policy-learning and transfer. The section on climate change and environmental protection presents the following initiatives:

4) Cooperate on achieving a strategic policy framework of green and low-carbon development for actively addressing global climate change, improving the quality of the environment and facilitating business-to-business cooperation within the green sector, 5) [...] Develop low carbon technologies to promote extensive use of renewable energy to reduce

⁸⁴ “EU-China – A strategic outlook” 2019

⁸⁵ “EU-China 2020 Strategic Agenda for Cooperation | EEAS Website”

⁸⁶ “EU-China 2020 Strategic Agenda for Cooperation | EEAS Website”

*consumption of fossil sources of energy and corresponding emissions, and 7) Continue dialogue and exchange experience on regulatory matters and environmental standards and research*⁸⁷

The primary data of the analysis in this study is the 2021 report on the DEPP cooperation, namely China Energy Transformation Outlook (CETO). The report is conducted and published by the implementing unit, Energy Research Institute of Chinese Academy of Macroeconomics Research, the financial support base, Children's Investment Fund Foundation (CIFF), the Ministry of Foreign Affairs in Denmark, and the technical support base, the Danish Energy Agency (DEA), Ea Energy Analyses, Columbia Center on Global Energy Policy, and Norad.

2021 China Energy Transformation Outlook

Reporting on the Sino-Danish cooperation is a key tool to keep track of the development and outcomes of the partnership. From 2016 and up until 2020 the China Renewable Energy Outlook (CREO) reports were published annually but replaced in 2021 by the much more comprehensive CETO report. Choosing a single report is substantiated by the extensive analyses carried out in the 2021 CETO report. It provides a large base of knowledge and information of the Sino-Danish cooperation. Analyzing data published by the institutions in charge of the programme provides first-hand perspectives of the features of the cooperation. This is supported by Bryman who argues that documents deriving from organizations are authentic and provide the researcher with clear information⁸⁸. However, issues of representativeness are prevalent in these types of documents; hence the choice to include an expert interview to obtain a more comprehensive dataset. This measure will provide valuable information in order to uncover opportunities and challenges not covered in the 2021 CETO report.

The 2021 CETO report holds a large analysis of China's energy system together with analyses of how to balance the transformation of the energy system with economic growth. Two scenarios of China's energy transformation are delineated in the report. First, the Baseline Scenario (BLS) in which China reaches the reduction target of 2 degrees, as set in the Paris Agreement, and becomes carbon neutral around 2070. In the second scenario, the

⁸⁷ "EU-China 2020 Strategic Agenda for Cooperation | EEAS Website"

⁸⁸ Bryman 2012, 551

Carbon Neutral Scenario (CNS), China will reach carbon neutrality before 2060 with peaking carbon dioxide emissions before 2030. The latter aligns with China's dual climate goals, and the idea of the CETO report is to base the scenarios and suggestions on China's energy strategy, the 'Four Reforms and One Cooperation'. The rationale of this strategy is to revolutionize the energy system by changing the supply and demand mechanisms through several initiatives and incentives.

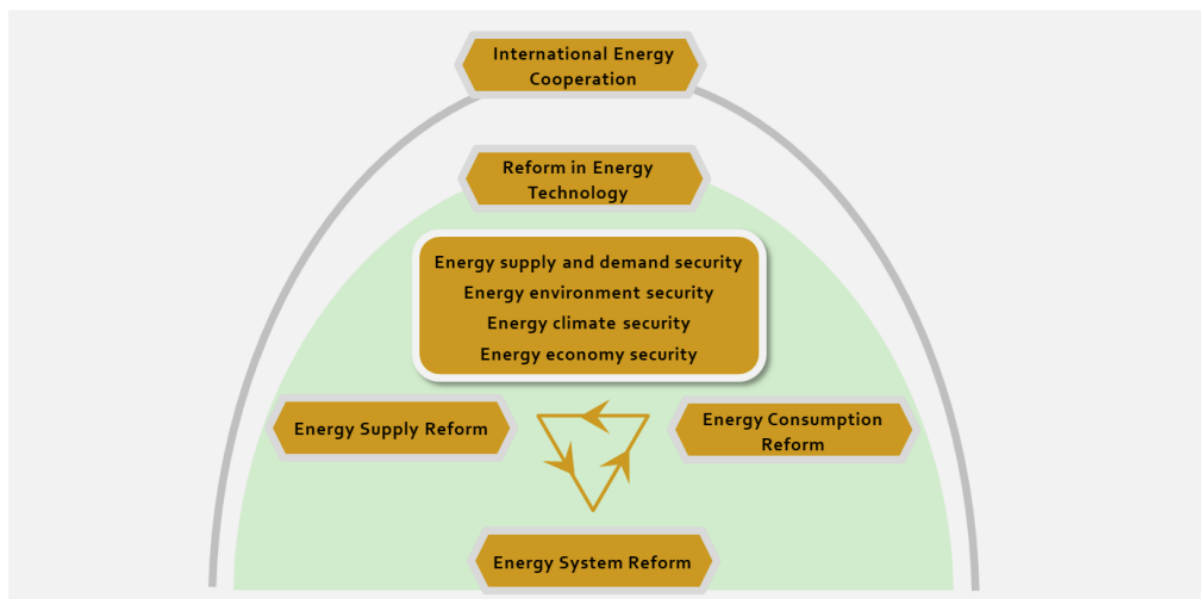


Figure 3: The internal logic of the Four Reforms and One cooperation (Energy Research Institute of Chinese Academy of Macroeconomic Research 2021)⁸⁹

Based on the analysis of China's energy system, the contradiction has shifted from insufficient supply of total energy + the need for economic and social development → the carbon structure of the existing energy system + the need for sustainable economic and social development. Accordingly, maintaining economic development is an important matter in the green transition. Therefore, the key components of China's energy transformation strategy are as follows:

⁸⁹ Energy Research Institute of Chinese Academy of Macroeconomic Research 2021

1) Energy efficiency will help decrease the energy demand. 2) electrification of transportation and end-use consumption. Fossil fuels will be replaced by RE resulting in a transformation of the demand-side. 3) The cost-reduction and favorable conditions for green technologies in the Chinese market will promote development of i.e. wind- and solar power which will cover the energy bulk. Lastly, to fully reach carbon-neutrality, hydrogen technologies such as Power-to-X are essential to cover the aviation, heavy transport, and shipping sectors⁹⁰.

The CETO 2021 report contributes with a series of policy recommendations on how to meet the targets in ‘Four Revolutions and One Cooperation’. The policy recommendations are as follows:

- 1) *Take the large-scale use of green power as a breakthrough point to lead, drive and conduct modernization and transformation of the Chinese energy system.* It means that electrification, wind- and solar power will be utilized to kickstart the use of RE. The rationale is to balance competition and cooperation between conventional energy sources and RE by considering the low-carbon transition, the control of total coal consumption, and the supply-demand reform of the energy sector, as described above, should be seen as a whole system. Competition and interaction between RE and conventional energy will ensure market conditions that facilitate an open and competitive energy market system.
- 2) *Take the informatization, digitization and intelligence of the energy sector as accelerators to catalyze the modernization and transformation of the energy system.* New technologies such as big data, 5G, artificial intelligence (AI), Internet of Things (IoT) will support the informatization and digitization through cost-reduction. Leading companies are important to the competitiveness of the wind- and solar power industries, driving energy efficiency in response to demand.
- 3) *Guide the continuous optimization of energy production with end-use energy and electricity demand, and continue to promote the realization of the carbon neutrality target.* This target underpins the ongoing initiatives and elaborates on detailed measures needed. As part of electrification, promoting electric vehicles (EV) and the use of RE is essential to move the demand from coal to renewables. Reducing coal

⁹⁰ Energy Research Institute of Chinese Academy of Macroeconomic Research 2021

through electrification in high-polluting industries, and in urban and rural commercial and residential buildings is another key element together with “expanding the capacity of urban and rural gas power and heat supply infrastructure, and integrating it with distributed renewable energy”⁹¹. Changing the demand-side is done by generating price incentives, setting up a pricing system driven by supply and demand of the market, bettering the peak- and valley pricing mechanisms for suppliers and consumers, as well as the demand power management. As a means to improve the responsive capabilities of the load side, system operating conditions together with market transactions and user consumption data shall be integrated into a management system and analyzed through big data technologies. To further modify the demand side, it is necessary to establish convenient conditions done by expanding the application of V2G (vehicle to grid) that allows the user to charge at home, and by broadening VE charging infrastructure, and develop charging/discharging technologies. It is also necessary to innovate VE batteries that can be included in a circular economy. These initiatives are key measures to ensure the flexibility of the power system⁹².

Finally, in order to solve the overarching problem of storing electricity from wind- and solar power, hydrogen technologies shall be introduced. Hydrogen is primarily produced by using (natural) gas, but the process can be replaced by electricity generated from wind- and solar power. This helps to solve some of the storing problems related to wind- and solar power. The costs of the technologies are currently high but the development and stimulation of the market is expected to bring down the costs. Along with the policy recommendations, the CETO 2021 report adds pricing tools like carbon pricing and carbon taxation as pivotal means to incentivise reduction⁹³

The semi-structured interview method

To collect qualitative data, the semi-structured interview method was selected to gather information not accessible for the public nor found in the 2021 CETO report. The objective is to uncover the limitations and opportunities of the energy cooperation between Denmark and China by interviewing International Chief Expert at the Energy Research

⁹¹ Energy Research Institute of Chinese Academy of Macroeconomic Research 2021, 21

⁹² Energy Research Institute of Chinese Academy of Macroeconomic Research 2021, 19-21

⁹³ Energy Research Institute of Chinese Academy of Macroeconomic Research 2021

Institute of Academy of Macroeconomic Research, Kaare Sandholt. The semi-structured interview method is attractive for this master thesis due to its informal style allowing the researcher to ask questions outside of the interview-guide. Thus, the respondent can elaborate on questions and potentially help the researcher to cover specific gaps of knowledge. The method leaves room for unforeseen nuances and important themes in the dialogue between the researcher and the respondent. The semi-structured interview is defined as a qualitative interview and it differs from the quantitative interview in flexibility⁹⁴ The qualitative interview method aligns with the research design of this study, as the objective of the case study design is to obtain a deeper understanding of the cooperation between Denmark and China, and the role of the EU.

Asking questions in the semi-structured interview is based on an interview guide - a list of questions or fairly specific topics to be covered, as delineated by Bryman. The semi-structured interview facilitates leeway in how the respondent replies and the researcher can return to previous questions throughout the interview⁹⁵. The informal style is also reflected in the interview guide which is referred to as *“the brief list of memory prompts of areas to be covered that is often employed in unstructured interviewing or to the somewhat more structured list of issues to be addressed or questions to be asked in semi-structured interviewing”*⁹⁶. Questions in the interview guide will be based on the theory of policy-transfer and policy-learning in order to link empirical findings to theory. The interview guide can be found below as well as in the list of appendices.

Semi-structured interview guide

Introduction

This interview is a part of the research on Denmark’s collaboration with China through the DEPP Programme. The objective is to examine the challenges and opportunities that impact the bilateral cooperation between Denmark and China on decarbonisation.

Introduction of the respondent:

Can you please give a short explanation of your role in the Sino-Danish energy cooperation?

⁹⁴ Bryman 2012, 470

⁹⁵ Bryman 2012, 471

⁹⁶ Bryman 2012, 472-473

Theme 1: Driving mechanisms of policy transfer

Question 1.

Based on your experience and opinion, are there any challenges regarding globalization, trade or economy that impact Denmark's cooperation with China? If yes, how?

Question 2.

Are there any challenges related to the EU and the EU's relations with China that impact Denmark's bilateral cooperation with China? If yes, how?

Question 3.

Are there any institutional factors related to the Chinese or Chinese political systems that impact the Sino-Danish cooperation?

In addition, do you see any cultural factors as constraining or enabling factors for cooperation with China?

Theme 2: Constraints and enablers for Denmark's cooperation with China through the Danish Energy Partnership Programme (DEPP) related to policy-learning

Question 4.

Do you perceive cultural, geographical and ideological factors as enabling or constraining Denmark's cooperation with China through DEPP? In which ways?

Are there any challenges related to technology? If yes, in which ways?

Question 5.

How are the policy recommendations from the Danish Energy Authorities featured in China's domestic strategy on decarbonisation? Do you know how implementation of the policy recommendations happens?

Analysis

The analysis is based on qualitative data conducted through a semi-structured expert interview together with the 2021 China Energy Transformation Outlook. The respondent, Kaare Sandholt, is affiliated with the Academy of Macroeconomic Research and represents the view of epistemic groups and experts. The analysis aims to explore the dynamics, limitations, and possibilities of Sino-Danish bilateral cooperation through the theoretical lens of policy-learning and policy-transfer. This approach will elucidate driving factors, enablers, and barriers to learning and transfer in order to identify challenges and opportunities of cooperation between governments and supranational institutions.

According to Dolowitz and Marsh, transfer of policies is driven by various forces depending on the reasons for transfer. The determining factor is whether policies are transferred because the actors involved *want* to or *have* to. In this case, transfer is explained by climate change issues that oblige the EU and China to pool sovereignty with each other to ensure commitment to the 2015 Paris Agreement⁹⁷. Because it is a legally binding treaty, they are “coerced” to comply. It is done by implementing the target of holding the increase in the global average temperature below 2 degrees into their own frameworks or ‘Nationally Determined Contributions’ (NDC)⁹⁸. Denmark’s NECP exemplifies transfer from the EU to Denmark by including the EU’s objectives⁹⁹. Internationalization theory coins this type of transfer as “negotiated transfer”. It reflects a situation where the member states voluntarily engage in international cooperation and comply with a set of legal obligations outlined supranationally¹⁰⁰. The EU’s legally binding Climate Law illustrates this process.

Transfer of the content in the Paris Agreement is illustrated in China and EU’s Strategic Agenda for Cooperation: “Cooperate to support complementary initiatives, with a view to reducing global greenhouse emissions below 2C above pre-industrial level”¹⁰¹. It is clear that policy transfer is happening in coercive manners. Because the policy is transferred directly to the EU-China Strategic Agenda for Cooperation, the degree of transfer is

⁹⁷ Dodds 2018, 274

⁹⁸ “The Paris Agreement”

⁹⁹ “Denmark’s Integrated National Energy and Climate Plan under the REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on” 2019

¹⁰⁰ Dolowitz and Marsh 2000, 5

¹⁰¹ “EU-China 2020 Strategic Agenda for Cooperation | EEAS Website”, 12

characterized as “copying”¹⁰². Theoretically, international organizations such as the EU “influence national policy-makers indirectly through information and policies”¹⁰³ making them agents of both coercive and voluntary transfer. Therefore, the line between coercive and non-coercive transfer is thin. When transfer happens because of pressure from international groups, it is defined as a mixture between coercive and non-coercive transfer¹⁰⁴. On one hand, the transfer of policies in the UN’s Paris Agreement can be defined as coercive because of the direct transfer of policies to the EU-China agreements. Yet, in practice the goals are not always fulfilled. According to the EU Commission, China still constructs coal-fired power stations despite political promises of the opposite¹⁰⁵. It undermines the Agreement and opposes China’s position as one of the main brokers in the Agreement¹⁰⁶, which exemplifies how transfer is non-coercive in its nature too. It encapsulates the implicit problem of international climate agreements. That is, the difficulties of making countries fully commit¹⁰⁷. Placing transfer on Dolowitz and Marsh’ continuum can elucidate the complexity. In compliance with the continuum, policy-transfer between Beijing and Brussels can be defined as voluntarily but driven by perceived necessity¹⁰⁸ - in our case the necessity of mitigating climate change globally and nationally.

Compared to transfer between Beijing and Brussels, Sino-Danish cooperation is to a larger degree motivated by policy-learning when perceiving it as an isolated case. Whilst this type of transfer is placed at the non-coercive end of the continuum, cooperation between Denmark and China is characterized as voluntary transfer of policies¹⁰⁹. In compliance with internationalization theory, transfer between the PRC and Denmark materializes through transnational communication. Because the energy partnership between Denmark and China consists of the exchange of expertise, political agreements, and policy recommendations in the annual reports, transnational communication can help explain the Sino-Danish dynamics. Further, the transnational communication is driving the DEA and the Chinese Energy Authorities to provide the needed information to the common problem-solving¹¹⁰.

¹⁰² Dolowitz and Marsh 2000, 10

¹⁰³ Dolowitz and Marsh 2000, 11

¹⁰⁴ Dolowitz and Marsh 2000, 11

¹⁰⁵ Davidson 2022

¹⁰⁶ “EU-China – A strategic outlook” 2019

¹⁰⁷ Dodds 2018, 274

¹⁰⁸ Dolowitz and Marsh 2000, 9

¹⁰⁹ Dolowitz and Marsh 2000, 11

¹¹⁰ Caramani 2008, 515

Since cooperation includes three policy actors - The EU, China, and Denmark - transfer manifests two-fold. Primary transfer of policies goes from the EU-China Strategic Agenda for Cooperation stating that cooperation shall be established in order to share experience and promote best practices both regionally and internationally¹¹¹. Indirectly, it provides a mandate to the Sino-Danish cooperation on energy cooperation through DEPP, vis-à-vis Denmark's EU-membership. The second level of transfer is exchange of knowledge, experience, and policy recommendations through the 2021 CETO report.

Actors involved

Dolowitz and Marsh' policy transfer framework defines actors involved in transfer as "elected officials, institutions, consultants, and supranational institutions"¹¹². In this case, the Danish Energy Agency and the Chinese Energy Authorities represent the institutions and consultants working together at the CNREC, whereas the international institution is the European Union. The expert groups offer valuable advice based on what they regard as "best practice" while being less entangled in the political system¹¹³. As policy-transfer is concerned with the overall actors, policy-learning theory places the interest on the policy teachers and distinguishes between two types. First, national and local governments with the ability to promote specific policies or programs to other governments through political contracts. In this research, the Danish government represents this group. Second, policy entrepreneurs consisting of international consultants or epistemic groups of experts. These provide solutions based on knowledge and experience which the Danish and Chinese energy experts at the CNREC and Academy of Microeconomic Research represent¹¹⁴. The part of the programme concerned with district heating, includes China's National Energy Conservation Centre (NECC) and local authorities. Cooperation between these stakeholders is crucial in order to share information of efficient energy-use in favor of government bodies. It underlines the importance of intergovernmental knowledge-sharing in favor of policy-learning and policy-making.

Elected officials are important stakeholders due to their role as policy-demonstrators. As explained by Sandholt, Danish Minister for Climate and Development Cooperation and Global Climate Policy, Dan Jørgensen, plays a significant role: "It is important that Dan

¹¹¹ "EU-China 2020 Strategic Agenda for Cooperation | EEAS Website"

¹¹² Dolowitz and Marsh 2000, 10

¹¹³ Dolowitz and Marsh 2000, 10

¹¹⁴ Dodds 2018, 123

Jørgensen travels to China tomorrow [...]. You could say that his job is made easier when we (the energy experts) have done the groundwork”¹¹⁵. This measure eases the communication and increases mutual understanding between the Danish energy experts and the Danish Ministry of Energy. It is clear that policy-makers benefit from partnering up with epistemic groups that enable cooperation on upper governance levels. This is also demonstrated in the close relationship that Danish energy experts have with Chinese officials in upper governance levels, facilitated through the Sino-Danish Clean Heating Program, and Quality Offshore Wind Program. The role is to exchange expertise with government ministries through pilot projects and share best practices with Chinese government agencies¹¹⁶. As stated by Sandholt, this relationship has improved the conditions and legitimacy for Sino-Danish cooperation on energy: “[...] Because Denmark has a great tradition for working together with China, I think it is easier for Denmark - compared to other countries - to cooperate with institutions close to the (Chinese) central administration”¹¹⁷.

Initially, the EU's cooperation with China was lacking European support as “the support from the energy department was limited [...] they did not see any reason to cooperate with China”¹¹⁸. As a result of thorough efforts from experts and consultants in the DEA and CNREC, cooperation between the EU and China now receives increased political support¹¹⁹. The examples are in line with the theoretical explanation of how domestic actors, who are able to engage in the policy-making process and get support for an idea, can ease policy-transfer between political systems. Therefore, it is assumed that Danish energy experts’ ties with government bodies near the central administration impacts development of domestic policies as a result of political support to the policy recommendations.

What is transferred?

Dolowitz and Marsh identify eight categories of content: policy goals, policy content, policy instruments, policy programmes, institutions, ideologies, ideas and attitudes, and negative lessons¹²⁰. First, the EU-China Strategic Agenda for Cooperation outlines several policy goals. The goal for cooperation on sustainable development reflects this: “Reinforce cooperation in energy regulation in order to share experience and promote best practices both

¹¹⁵ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹¹⁶ “China | Energistyrelsen”

¹¹⁷ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹¹⁸ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹¹⁹ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹²⁰ Dolowitz and Marsh 2000, 12

regionally and internationally, thereby enhancing consistency in energy policy-making in each country as well as the efficiency of the energy market”¹²¹. The policy involves regional and national engagement, and it shows how the wish to cooperate is transferred to lower governance levels - in this case, the Sino-Danish energy cooperation. Identifying the parties can help determine to what degree transfer happens and how much a country can single handedly choose to engage.

Policy-learning theory groups transferred policies into two: 1) means, tactics, strategies, and policy tools, and 2) ends, and policy goals. With this in mind, the overall objectives for climate cooperation outlined in the EU-China Strategic Outlook, and the EU-China Strategic Agenda for Cooperation can be placed in group 2, whereas the 2021 CETO report with its detailed means, is placed in group 1. For instance, the policy recommendations include certain regulative policy tools such as carbon pricing to direct the demand from fossil fuels to renewable energy sources, as well as regulations placed on gas power. To support China’s national carbon and power markets, the implementation of measures to optimize trading and manage pricing of green certificates is recommended¹²².

Dolowitz and Marsh argue that: “It is important to distinguish between policies, which are seen as broader statements of intention and which generally denote the direction policy-makers wish to take, and programs, which are the specific means of the course of action used to implement policies”¹²³. The 2021 CETO policy recommendations are based on China’s Four Revolutions and Cooperation, and they can be understood as tools to promote the objectives in the strategy. In compliance with theory, it means that China’s Four Revolutions and One Cooperation represents broader statements of intention whereas the report’s policy recommendations are programs that specify the means for implementation of the policies. Second, what is transferred from Denmark to China are observations through field trips. Sandholt explains that observing Danish policies and programmes has contributed to domestic policy-making processes in China. Being able to reflect policies has been advantageous when discussing the development of the Chinese energy system. Sandholt adds: “The examples we give are not examples we make up, they derive from real contexts”¹²⁴. The recommendations are a part of the learning taking place between Denmark and China, and it

¹²¹ “EU-China 2020 Strategic Agenda for Cooperation” 2013, 9

¹²² Energy Research Institute of Chinese Academy of Macroeconomic Research 2021, 20

¹²³ Dolowitz and Marsh 2000, 12

¹²⁴ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

supports the argument that policy-transfer in the Sino-Danish relationship is carried out voluntarily. Additionally, as stated by the respondent, Denmark's rationale is not to "reduce carbon emissions to save Denmark [...] but to demonstrate how it benefits us, and how others can benefit - that they can do the same. And that is exactly what we are doing in China"¹²⁵, which underscores the policy-learning aspect in the collaboration.

Degrees of transfer

First, policy-actors can pursue policy lessons in three governance arenas: the international, the national, and the local¹²⁶. Because bilateral cooperation is emphasized by China, the EU, and Denmark, policy lessons are primarily sought in the international arena. Theoretically, actors engaging in policy transfer are not limited to looking at national governments but can look to other sub-national levels and units of governments¹²⁷. In this case study, Danish energy authorities represent the other governmental unit.

Degrees of transfer includes copying: the direct and complete transfer of a policy, emulation: transfer of ideas behind a policy, combinations: a mixture of several different policies, and inspiration: when another policy can inspire for policy change or converge but the final policy is not necessarily similar to the original¹²⁸. Because the Sino-Danish collaboration is generally voluntary and concerned with policy-learning, the degree of transfer is characterized as emulation and inspiration. Emulation materializes in Denmark's transfer of *ideas* through their policy recommendations in the CETO report. Copying is, *inter alia*, demonstrated in the process of transferring Danish experience with coal-fired power to China. Sandholt explains:

*"What we have done successfully is to transfer Danish experience with coal-fired power plants. Denmark and Danish strategies have ensured flexibility in the coal-fired power plants. In a relatively short period of time, the power plants are able to produce maximum output, then downregulate. Denmark has been pioneering in this regard and the Chinese have been able to catch up due to successful transfer of our experiences"*¹²⁹

¹²⁵ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹²⁶ Dolowitz and Marsh 2000, 10

¹²⁷ Dolowitz and Marsh 2000, 12

¹²⁸ Dolowitz and Marsh 2000, 13

¹²⁹ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

This exemplifies the relevance of lesson-drawing in domestic policy-making. The outcome is reflected in the following 2021 CETO policy recommendation: “The energy transition towards renewable power will be coordinated with coal and gas power[...]”¹³⁰. Another example is the policy recommendation suggesting that wind and solar power need to be the major power sources¹³¹. This policy will enable transfer of Danish expertise on wind power. The recommendation of establishing a “trading platform for coal, electricity, petrol, and natural gas that enables the dynamic interaction between supply and demand”¹³² is a means to build a national carbon market and national power market to ensure economic growth. It aligns with the interconnectivity target in Denmark’s NECP¹³³ and Sandholt’s experience of energy trading with Denmark’s neighboring countries¹³⁴. This specific experience has been important to tackle the Chinese challenge of incentivizing provinces to trade energy. Pursuant to Sandholt, Chinese provinces have individual economic and societal ends outlined in their economic plans. Thus, provinces are less likely to sell and trade electricity to other provinces due to fear of not hitting their individual targets¹³⁵. Denmark’s small geographical scale has been an advantage due to the comparability with a Chinese province. It exemplifies policy transfer through Dolowitz and Marsh’ “emulation”¹³⁶ because it is the *idea* that diffuses to another system.

In regard to how Denmark’s policy recommendations are utilized in China, it is clear that Chinese policy-makers take these seriously and try to implement them into domestic policies. Pursuant to Sandholt, Denmark has helped shape the structure of the modern Chinese energy strategy: “In my opinion, the strategy China has today, is to a large degree based on the analyses and cooperations we have had with China for the past 15 years. And it shows that being a pioneering country really counts”¹³⁷. As stated by the respondent, placing the policy recommendations in a real context has been beneficial as it allowed stakeholders to discuss how the recommendations reflect China’s own development¹³⁸. Thus, it can be argued that the degree of transfer is what theory defines as inspiration¹³⁹. The 2021 CETO report

¹³⁰ Energy Research Institute of Chinese Academy of Macroeconomic Research 2021, 19

¹³¹ Energy Research Institute of Chinese Academy of Macroeconomic Research 2021, 19

¹³² Energy Research Institute of Chinese Academy of Macroeconomic Research 2021, 19

¹³³ “Denmark’s Integrated National Energy and Climate Plan under the REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on” 2019

¹³⁴ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹³⁵ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹³⁶ Dolowitz and Marsh 2000, 12

¹³⁷ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹³⁸ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹³⁹ Dolowitz and Marsh 2000, 13

suggests introducing a carbon-pricing tool based on benchmarking to incentivize low-carbon technologies. This measure builds upon China's existing carbon emissions trading system (ETS) implemented in 2021, and it demonstrates that policy-learning is not exclusive to bilateral cooperation but happens between domestic institutions too. Additionally, because the idea behind a programme or policy is exchanged, transfer happens through emulation. Introducing a carbon tax is similar to Denmark's carbon taxation strategy starting from 2025, outlined in the NECP¹⁴⁰. It is evident that the case includes examples of policy-transfer through emulation and inspiration, whereas examples of copying are fewer. It can be argued that it is due to the non-coercive nature of the DEPP, which, according to theory, entails less copying and more emulation and inspiration. On a final note, analyzing the degree of transfer between Denmark and China reveals various ways of exchanging policies. Nonetheless, concluding on the full scope of policy-transfer may be difficult due to limited knowledge of the final policy implementation and long-term effects in China's domestic energy policies.

Discussion

Ideally, identifying and analyzing constraining and enabling mechanisms in the Sino-Danish energy cooperation through Dolowitz and Marsh' framework can lead to a discussion about challenges and opportunities related to G2G collaboration. In continuation, whether cooperation is easier done between governments or at a supranational level can be discussed.

Constraints to transfer include policy complexity, past policies, structural and institutional feasibility, proximity, policy-making procedures, cultural matters, technology, bureaucracy, and the (socio)economic capacities of the actors involved. These factors may either facilitate or constrain transfer. First, it is the general impression that cooperation on climate and energy is considered a "shield" from geopolitics and globalization issues. Sandholt explains, "the responsible parties agree on climate policy as a ground for cooperation which should not be dragged into a geopolitical conflict"¹⁴¹. An important facilitator for transfer is the use of lesson-drawing. Aforesaid, the 2021 CETO recommendation of adding carbon pricing is based on China's Emissions Trading System

¹⁴⁰ "Denmark's Integrated National Energy and Climate Plan under the REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on" 2019

¹⁴¹ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

(ETS) and it shows how past policies in this case enable policy-learning. Technology is perceived as a dominating factor for the transfer of policies to China. The example of Denmark advising Chinese energy experts and policymakers on construction of power grids shows that Denmark's technological advancement and knowledge is crucial for developing adequate policies. Furthermore, close cooperation has given Danish experts information about China's energy system and eventually increased the structural feasibility of the policies recommended. Denmark's long-lasting partnership with China has also been essential to circumvent tensions in the international political sphere. Thus, political differences have been more or less outweighed by mutual trust facilitated by strong diplomatic ties. Because the energy experts are not obliged to promote certain political interests, the means and ends of the DEPP can be prioritized. This finding supports Delman's study from 2020, in which it was concluded that Chinese policy-makers preferred collaborating with the Danish Energy Agency due to its political neutrality¹⁴².

In continuation, long-term cooperation has been favorable for how the policy recommendations are received in China. Sandholt explains how it improves cultural understanding from both sides: "many of them (Chinese colleagues) are ph.d.'s from Europe or the United States and they understand the Western culture and work ethic, which makes working together much easier. Those of my colleagues who have not worked or studied in China are slightly more difficult to cooperate with"¹⁴³. The efforts to gain cultural knowledge can be explained by China's goals of learning from abroad in order to shape domestic policies supportive to the energy system transformation¹⁴⁴. This example underlines policy-makers' benefits of partnering with external consultants that are not limited by a specific time frame. Overall, these examples reveal how cultural matters eventuate efficient transfer and learning.

The 2021 CETO report emphasizes the benefits of partnering with China on green technologies. Due to the Chinese market's size, competition and development is facilitated. Nevertheless, entering the market in China can be difficult. Sandholt includes an example: In the early 2000's China established a hard-to-enter market for windmills in order to promote a domestic market with Chinese companies: "the reason was China's goal to establish a domestic industry and to prioritize local jobs and companies". It demonstrates how China is

¹⁴² Delman 2020,

¹⁴³ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹⁴⁴ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

willing to accept learning and knowledge to promote its own interests. This argument accentuates the findings by Vesterager et al.¹⁴⁵, who pointed out intellectual property rights (IPR) as one of the top three challenges when collaborating with China. Similarly, it opposes the objectives of China and the EU's Strategic Agenda for Cooperation in which both actors agree that "effective protection of Intellectual Property Rights is crucial to support the effective development and deployment of innovative solutions and emerging industries"¹⁴⁶. These examples encapsulate the difficulties vis-à-vis institutional and cultural differences.

Constraining elements include differences in the political systems and bureaucratic procedures. Based on Danish experience, control of policy-makers and relevant stakeholders has risen in the past years. Consequently, it affects China's international room to maneuver despite efforts to promote bilateral cooperation through their climate strategies¹⁴⁷. In this case, it manifests in more control of lower governance levels for reporting to the central administration. Because pre-clearance from upper governance levels is required, it has become difficult to set up meetings or workshops with key experts¹⁴⁸. It serves as an example of how working together with governmental bodies close to the Chinese central administration also comes with challenges related to top management. Ultimately, it slows down the process of learning. In compliance with the theory, institutional factors such as the organizational structure of a political system and different policy-making procedures are of importance for successful policy-transfer and policy-learning. The mentioned example shows this. To get round the differences in the Danish and Chinese ways of policy-making, letting China choose which institutions manage cooperation has been advantageous. Sandholt states that it has given Denmark greater legitimacy as an advisor on energy and climate policy, from the Chinese perspective: [...] our programme is comprehensive and it has been fully monitored by the NDRC (China's National Development and Reform Commission) in regard to whom to cooperate with, which has increased our legitimacy"¹⁴⁹. Another determinant for the success of Sino-Danish policy transfer and learning, is the type of policy area. Since Denmark assists China in policy-formulation and policy recommendations described as a "technical" policy area, external political impediments become less significant¹⁵⁰. Sandholt

¹⁴⁵ Hoppe et al. 2020,

¹⁴⁶ "EU-China 2020 Strategic Agenda for Cooperation" 2013

¹⁴⁷ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹⁴⁸ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹⁴⁹ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹⁵⁰ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

calls his work less politicized since the Sino-Danish cooperation is not concerned with forcing policies upon China, but to support the energy system's transformation. Since policy-formulation is a rather isolated part of policy-making, cooperation seems easier because political conflicts in other stages of policy-making are excluded. It reveals that climate policy can unite countries at the most basic level of policy-making if the area of cooperation is scientific and narrow. Another enabling factor has been the multilateral approach. Because non-interference in countries' internal affairs is embedded in Beijing's approach to bilateral engagement, focusing the cooperation on policy-formulation seems to be important for the ability to exchange policy-lessons between countries. Conclusively, it appears that the long-lasting relationship together with the specific area of cooperation are factors that contribute to the overall constructive and stable collaboration between DK and China.

Based on the respondent's experiences, government-to-government cooperation circumvents EU-China tensions¹⁵¹. This is in line with Delman's study from 2020, who found that G2G cooperation entailed fewer communication problems compared to supranational cooperation¹⁵². Dolowitz and Marsh argue that rewarding transfer is more likely to happen through lesson-drawing due to perfect rationality, which explains this trend. Nonetheless, if countries fail to exclude political tensions from cooperation, transfer is less likely to succeed. The EU Commission's initial objective for partnering with China was to ramify throughout the cooperation¹⁵³. It demonstrates the EU's attempt to promote its own values and interests. According to Sandholt, it only challenged cooperation¹⁵⁴. As previously explained, one of the challenges for the Sino-EU relationships is conflicting approaches to bilateral engagement and multilateralism. In compliance with theory, institutional and cultural factors affect policy-transfer. With this in mind, it allows us to understand why collaboration between the EU and China is not an easy task.

Altogether, in order to avoid lack of feasibility in the policy recommendations, the Sino-Danish DEPP cooperation has benefitted from their long-term relationship with China, together with a non-coercive approach to cooperation that, to a large degree, reflects China's

¹⁵¹ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹⁵² Delman 2020,

¹⁵³ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹⁵⁴ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

perception of multilateralism. This maneuver has allowed Chinese partners to transfer policies and programs to a Chinese context through lesson-drawing.

Transferring policies or programmes in a non-coercive manner can arguably pave the way for policy-learning. In order to understand how to ensure adequate conditions for actors involved in the process, studying the determinants is imperative. Theory on policy-learning and transfer is closely related, yet certain distinctions should be done. Enabling factors for learning are as follows: 1) cultural, geographical, and ideological proximity, 2) cultural, political and economic power, and 3) competition. Meanwhile, barriers for policy-learning include 1) socioeconomic capacity, 2) divergence in ideological belief systems, and 3) language barriers. The qualitative interview data reveals several factors that are not covered by the 2021 CETO report. First, it is evident that cultural, geographical, and ideological proximity of Denmark and China is lacking. However, one could argue that the reciprocal cultural understanding in this case outweighs the lack of geographical and ideological proximity. In continuation of that, due to Denmark and China's commitment to the Paris Agreement's decarbonisation goals, a feeling of shared responsibility may undermine the importance of ideological proximity. Theoretically, this can enable policy-learning through emulation of policies¹⁵⁵ which aligns with the perception of cultural matters as less significant¹⁵⁶. Furthermore, Sandholt's experience is underpinned by the fact that policy-making in theory is more affected by political interests than cultural matters¹⁵⁷.

It is to be expected that Sino-Danish cooperation on green energy will be affected by the economic or political power of China. Nevertheless, the necessity of looking abroad for policy solutions to China's green transition seems to erode power asymmetry due to Denmark's leading position in renewable energy - Denmark simply has solutions to offer China. In this case, China's economic power makes it conducive to implementation of Denmark's policy recommendations. Without fit economic capacities, implementing the needed policies and developing the market of green technology, as emphasized in the policy recommendations, fails to succeed. China's economic growth target is regarded as a measure of performance and it obliges the Chinese government to follow their climate goals¹⁵⁸. China is at a crossroads in terms of the transformation of the energy system, where following the

¹⁵⁵ Dodds 2018, 124

¹⁵⁶ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹⁵⁷ Dodds 2018, 124

¹⁵⁸ "China's climate change policies" 2022

baseline scenario allows China to reach carbon-neutrality but not before 2070. Following the CNS will allow China to uphold economic growth whilst reaching neutrality before 2060¹⁵⁹ but it requires bilateral cooperation. This makes policy-learning attractive due to its alignment with Chinese multilateralism as well as it supports China's economic growth. It provides an explanation of Beijing's desire to catch up on initiatives related to the green transition. In compliance with theory, competition is an enabling mechanism in policy learning. Therefore, China's emphasis on bilateral cooperation on energy policy-making reflects the desire to catch up.

Moving on to barriers of policy-learning, considering China's socio-economic capacities is crucial. Due to China's geographic size, not all administrative levels are equally developed. Some areas can be characterized as developed whereas others lack development in various degrees. Thus, socioeconomic capacities, meaning the degree of redistribution of resources needed for a policy¹⁶⁰ vary throughout the country. To ensure energy transformation in each geographical area, the policy recommendations involve certain initiatives based on the advantage of the large geographical capacities where on-shore wind facilities can be placed. Wind power facilities shall be constructed in the northern and middle provinces, and wind power shall then be distributed and applied to the advancement of related technologies. To cover inter-regional power transmission, solar farms will be expanded in regions with desirable resources¹⁶¹. The recommendation of using the informatization, digitization, and intelligence of the energy sector shows how these regions can be included in the overall transformation of the energy system: "Power grid planning must be considered nationwide: from establishing a multi-layered national interconnection system from intra-province balance at top-priority, to regional coordination, and to the broader national balancing dispatch"¹⁶². To support China's economic growth, expanding renewable power capacities are to ensure deployment in these sectors, eventuating socio economic development of the provinces crucial for the individual economic plans. Likewise, improving energy efficiency on the demand side is also needed to ensure the pace of the supply side deployment to uphold economic growth¹⁶³.

¹⁵⁹ Energy Research Institute of Chinese Academy of Macroeconomic Research 2021, 9

¹⁶⁰ Dodds 2018

¹⁶¹ Energy Research Institute of Chinese Academy of Macroeconomic Research 2021, 19

¹⁶² Energy Research Institute of Chinese Academy of Macroeconomic Research 2021, 20

¹⁶³ Energy Research Institute of Chinese Academy of Macroeconomic Research 2021, 10

As ascertained, issues caused by divergence in Denmark and China's ideological belief systems hold less relevance because cooperation happens in a technical policy area. Yet, diverging approaches to bilateral cooperation and definitions of multilateralism has proven to challenge cooperation between Beijing and Brussels. The case study demonstrates that government-to-government cooperation is less conflicted by ideological issues because of its non-coercive approach and objective of policy-learning. Lastly, barriers related to language are not touched upon in the interview data. Nonetheless, it is assumed that it is a topic of less concern in the Sino-Danish partnership due to the educational level of the actors involved in the policy-formulation.

Initially, how the risk of policy failure has been outmaneuvered is relevant to understand the outcome of the Sino-Danish DEPP cooperation. As policy-transfer in the case happens through lesson-drawing, the chances of policy success seem increased. In compliance with theory, certain factors are conclusive in this regard. First, uninformed transfer is often caused by insufficient information. In this case, working jointly together with governmental bodies that exchange information with upper governmental levels can be argued to strengthen perfect rationality. Sandholt explains that as a means to observe on-going policies, field trips are included in the cooperation. Further, the absence of linguistic errors supports perfect rationality. Second, inappropriate policy transfer is a result of too large cultural, social, and ideological differences. In this case, the long-term relationship seems to have minimized the significance of these differences, and instead facilitated mutual understanding in the groups of people doing groundwork. The risk of transferring inadequate policies may therefore be decreased.

It is evident that Denmark's G2G cooperation with China is rewarding and less affected by external disturbances compared to supranational cooperation. Whilst the EU has to deal with multiple different interests and political opinions, agreeing on the degree of cooperation with China is not without implications. Denmark's EU membership comes with both pros and cons. So far, directing substantial criticism against China and its internal affairs has been a job forwarded to the EU Commission¹⁶⁴, contributing to the stability of the Sino-Danish relationship. Despite the success, critics in Denmark call for drawing a harder line vis-à-vis China. Especially concerns related to Denmark's critical infrastructure and

¹⁶⁴ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

European energy independence have become a talking point on the political agenda. In addition, questions about unequal market access for foreign companies in China are highlighted¹⁶⁵. Based on the findings in the interview with Kaare Sandholt, it is evident that transferring research and knowledge of energy has become a concern for Danish politicians. Thus, it reflects the current international political landscape. Security policy is widely discussed and to a larger extent shapes countries' approach to bilateral cooperation along with an upward trend of political actors looking towards their own interests. Such tendencies are reflected in both Chinese and European behaviors, and it leaves a question of whether bilateral climate cooperation is influenced, and to what degree. The recent European Green Deal initiative REPowerEU¹⁶⁶ includes strategic means to detach from energy providers outside of the EU. As a consequence, the development of green technology and bilateral cooperation on renewable energy may be slowed down if actors are not able to cooperate and compete. Along with this, based on the findings by Vesterager et al. and this study's interview data, issues related to China's intellectual property rights impact collaboration with China. In the light of the on-going energy and security debate, whether these examples are conducive for policy-learning and policy-transfer in the bigger picture remains unanswered due to limited knowledge of the outcome.

As geopolitical tensions are challenging current cohesion in the global political sphere, it is the impression that the groundwork remains rather unchanged. Yet, it appears that not all government-to-government collaboration is unscathed. An example of this was American congresswoman Nancy Pelosi's visit to Taiwan that sparked opposition from Beijing. In consequence, China decided to put negotiations on their methane act with the United State on hold¹⁶⁷. The frozen ratification of the EU-China Comprehensive Agreement on Investment serves as another example of how politicizing climate policy may diminish the opportunities for foreign investment and development of technological solutions across national borders¹⁶⁸. Even so, opinions on the degree to which these political indications change government-to-government cooperation seem to vary. According to Sandholt, these situations have only led to minor disturbances. In relation to the case study, an important factor is how Denmark has accessed their partnership on energy with China in favor of

¹⁶⁵ "Niels Fuglsang: EU's naivitet over for Kina spænder ben for unionens suverænitet" 2023

¹⁶⁶ "REPowerEU: A plan to rapidly reduce dependence on Russian fossil fuels and fast forward the green transition" 2022

¹⁶⁷ Kaare Sandholt, interview by author, April 19, 2023, Appendix A

¹⁶⁸ Lynch 2023

mutual benefits. The Sino-Danish relationship seemingly reflects a multilateral approach to cooperation. It fosters favorable conditions for mutual policy-learning and joint problem-solving of climate change issues.

Being the largest emitter of greenhouse gasses, China needs leapfrog solutions to achieve national climate targets as well as the goals in the 2015 Paris Agreement. At the same time, the EU and Denmark are dependent on rare earth elements in order to construct and develop wind power facilities and electric vehicles. Due to early strategies on rare earth elements, China shares approximately 90 percent of the REE market¹⁶⁹. Since the EU does not have adequate facilities for REE production, staying on good terms with China is critical in order to continue and expand renewable energy sources on the European continent. On the contrary, the CCP's legitimacy is to a large degree measured by their economic and developmental performance. Thus, Beijing is dependent on cooperating with the EU in order to meet the national growth targets. Based on Sandholt's experience, depoliticizing climate policy-making as much as possible seems essential to keep opportunities open for both sides. Finally, one can argue that strengthening the interdependence between Europe and China also contributes to overall global stability and security.

The EU's Charles Michel has already stated that combating climate change can not be done without China¹⁷⁰. Against that backdrop, decoupling from collaboration with China seems not only unwise, but also inconceivable in light of China's economic and technological capacities combined with the large GHG emissions. It reveals a complex relationship where fighting against the adverse effects of climate change is a key point of mutual dependence. It can be argued that national climate plans are not sufficient. This is because climate change requires joint efforts of countries cooperating through policy-learning in order to meet the increasing demand for RE globally. Efforts that will advance existing RE technologies in favor of climate mitigation on national levels.

The above analysis begs two central questions: 1 - does government-to-government cooperation matter? And 2 - why should countries continue working together on climate and energy? Government-to-government cooperation evidently holds the potential of uniting countries cross-nationally. While tensions between the EU and China tend to pull focus away

¹⁶⁹ "Rare earth elements, permanent magnets, and motors"

¹⁷⁰ "EU-China summit, Beijing, 16/07/2018" 2018

from the mission, bilateral cooperation between national governments manage to center attention on a narrow and technical policy area - in favor of the green transition. However, Sino-Danish G2G cooperation undoubtedly depends on the temperature in the global political climate together with the overall policies issued from the supranational level for their license to operate. Whether diverging political values and interests can be balanced or even excluded from climate policy remains the responsibility of the leadership in China and the EU. Notwithstanding, this master thesis research showcased and accentuated the importance of bilateral partnerships to reach the joint climate goals. Furthermore, it was found that uniting on climate policy-making *is* possible as long as cooperation stays mostly non politicized.

Conclusion

Comparing the EU-China strategic agreements, the European Green Deal, China's Four Revolutions and One Cooperation, and Denmark's NECP revealed transfer of policies and climate goals between the European Union, the People's Republic of China, and Denmark. The UN's 2015 Paris Agreement shapes the EU and China's climate goals, whereas Denmark's national decarbonisation targets are directly based on EU-policies. Thus, they are implicitly formed by the 2015 Paris Agreement through top down diffusion.

Combining the 2021 CETO report with qualitative data from an expert interview provided valuable insights into the thorough groundwork preceding the report. The Sino-Danish case study demonstrated policy-transfer through policy-learning happens between Denmark and China through policy recommendations in the 2021 China Energy Transformation Outlook. Policy-learning through lesson-drawing has provided profound information to domestic policy-making in China, in regard to the transformation of China's energy system. In continuation, field trips and observation of Denmark's on-going energy initiatives provided important nuances to Chinese policy-actors. Bilateral cooperation through the China Renewable Energy Centre (CNREC) has mutually benefited Chinese and Danish experts for the sake of policy-formulation. It was found that Denmark's long-term cooperation has eventuated political trust and enabled efficient policy-learning. It was found that bilateral cooperation on policy formulation through policy-learning circumvents undesirable impact from external factors.

Overall, it appears that climate policy is a common ground for cooperation. The comprehensive international climate agreements, the EU-China Strategic Outlook and EU-China Strategic Agenda for Cooperation evince joint efforts. Because the adverse effects of climate change cause global impacts, it was discovered that policy actors agree on depoliticizing climate policy to the greatest extent. Nevertheless, multilateral and bilateral climate cooperation do not circumvent certain points of discord. These issues can cause problems regarding the transfer of important technology and policy knowledge which only adds to the climate issues. The EU and China are aware of the importance of multilateral cooperation to solve the overarching climate issues but the presence of European and Chinese protectionist measures paired with political distrust can slow down the process. As the EU and China increasingly seek to protect their own interests, bilateral cooperation may be overlooked.

It was found that G2G cooperation seems to create a stable foundation for climate policy-making. Cooperating with China at the governmental level appears to be more desirable compared to cooperation at the supranational level. The EU is forced to consider the interests of several different stakeholders, complicating its ability to settle on a common cooperative approach to China. It was found that critics in Denmark require a harder line against China due to concerns about security policy and autonomy. Regarding enablers and limitations for policy-learning and transfer in G2G cooperation, it is clear that drawing upon experts and consultants outside of the political system eases bilateral cooperation between China and Denmark due to the depoliticized nature of problem formulation in policy-making. The Sino-Danish cooperation showcases the advantages of government-to-government partnerships vis-à-vis policy-learning. Working closely together by observing on-going policies and exchanging knowledge has resulted in policies adequate to the political system they are being transferred to. It was found that G2G partnerships have the potential to unite policy-actors and erode ideological and cultural differences. Government-to-government cooperation in climate policy is seemingly less affected by conflicts at the supranational level, strengthening the hypothesis of climate policy as common ground for cooperation.

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Appendices

Appendix A:

Transcription: Interview with Chief Expert at the Academy of Macroeconomic Research, Kaare Sandholt

Location: Online interview via Microsoft Teams

Date: April 19, 2023

Participants: Kaare Sandholt and Ditte Savannah Tjell Johansen

Introduction

This interview is a part of the research on Denmark's collaboration with China through the DEPP Programme. The objective is to examine the challenges and opportunities that impact the bilateral cooperation between Denmark and China on decarbonisation.

Introduction of the respondent:

D: Could you please give a short explanation of your role in the Sino-Danish energy cooperation?

K: In 2011 I was employed by the Ministry of Foreign Affairs as an international advisor in the Danish-Chinese program called the Renewable Energy Deployment Programme, and I helped to reorganize it and start over.

Before I was hired, I had the opportunity to be project manager on the project that had to redefine the program. I then worked in the program, employed by the State Department, but seconded to China until the end of 2014. I then continued with a new program, this time funded by the Children's Investment Funds Foundation, which replaced the existing program. Denmark continued, but not with financial subsidies to China, but with their assistance in the Energy Agency. That program ran until the end of 2020 and from 2021 I have continued to collaborate with the Energy Research Institute. It is funded by the Children's Investment Funds Foundation and it runs until 2026. So these are three major programs that are both about renewable energy, but also about restructuring the Chinese energy system. My

permanent partner is the NDRC Research Institute, which is an institute under the NDRC's scientific umbrella which is called the Academy of Macroeconomic Research

Ditte: Thank you.

Theme 1: Driving mechanisms of policy transfer

Question 1.

Ditte: Based on your experience and opinion, are there any challenges regarding globalization, trade or economy that impact Denmark's cooperation with China? If yes, how? Let me know if I shall elaborate

Kaare: Yes, please do so.

Ditte: In relation to globalization, are the discourses that exist between the great powers China, the USA and the EU significant? And the discussion about whether the EU should have an independent strategy because both the USA and China have independent strategies on energy and the green transition - does it play a role? Also, whether this anti-globalisation wave that we are experiencing is something that you have seen affecting the cooperation in any way?

Kaare: What I work with and the way I work, I have not been particularly influenced by exactly that agenda. In other words, I am not employed by Denmark or have to promote Danish interests in this but rather have an agenda that is about avoiding climate change, and China is one of the big players there. So it is very much a task of getting China to act quickly and effectively to limit their emissions of greenhouse gasses. And you can say that, to a certain extent, it is a kind of shield in relation to the discussion about globalization and geopolitics. Both the EU and specifically also the US - those in charge - they think that this is an area that we should be able to cooperate on, and not turn the area into a geopolitical strike. It is clear that there are some elements, for example this cross-border tariff that the EU wants to introduce, which approaches some explosive politics. Apart from that, China has actually expressed very clearly that climate is an area that they would like to cooperate internationally on.

So in that way you can say that much of what I do is not affected by that agenda in concrete terms. Obviously, the implementation of it can very easily be affected by it, but it does not look like the restructuring in China is heavily influenced by this discussion about globalization. It's about some other things.

Ditte: This is also what I see in terms of climate policy - because it is something that concerns everyone, and it requires joint efforts from everyone. The national or bilateral strategies that are laid out for cooperation require that you also cooperate with other actors across national borders. So I hear it actually agrees quite well with what you have experienced.

Kaare: After all, there are some examples where it is not possible to avoid politicization. The clearest example was when Nancy Pelosi visited Taiwan, where China interrupted negotiations with the US. After all, it was agreed last year in Glasgow at COP27. The US and China signed an agreement that something should be done about methane emissions, which is indeed a very harmful, but more short-lived greenhouse gas compared to CO₂, which has not had as much focus. The USA and China are major emitters of methane, especially from the coal industry and from the coal mines. So, fortunately, there was an agreement that you should have a strategy and that you should cooperate on methane. And that deal was put on hold by China. How much that means in practice can always be debated - the way China and the US have cooperated on climate and energy has always been a bit special.

Moreover, you could say that Denmark has benefited from, partly, being a small, perhaps somewhat harmless country and partly also having some things to offer, which are very concrete. And then they also have this stable long-term collaboration, which also means something for the trust they have. However, you cannot quite say that the climate policy has been completely left out of conflict, but from all sides they have tried to shield it. I actually believe that it has succeeded in a rather good way. But there are also some examples where you can say that it does not work out.

Ditte: Yes, I see that it exemplifies how geopolitics can affect negotiations and meetings.

Kaare: Yes, so when there are situations like this, where China is provoked so much, they pull the brakes on a number of things. And in this case also on the cooperation around methane. But I think it has slowly started up again. In our program, we have what is called the Center

for Global Energy Policy from Columbia University, which has a lot of knowledge about methane. They are in the program, also with the NDRC's (China's) approval, and in the outlook (CETO 2022) that we are working on at the moment, there will be a section on methane, which is published by Columbia. So there is still a lot going on in that regard but this was like an official marking that if you disturb too much, China will pull on the brakes.

Ditte: Yes, then there are tools that are put into use. But luckily, as you also say, it is not that severe. As you say, there is a common understanding that the climate area is not an area that should be politicized too much or used in the ongoing rivalry.

Question 2.

Ditte: Are there any challenges related to the EU and the EU's relations with China, that impact Denmark's bilateral cooperation with China? If yes, how?

Kaare: Yes, as mentioned, what I work with, is quite technical - and it is of course the policy formulation we are working with, it is not politics between the countries. It is to a larger degree Chinese policy-making to support their energy revolution. What I experience in my daily life is the cooperation program that the EU and China have, it is called EU-China Energy Cooperation Platform. It started in 2017-2018.

In many ways, things are actually going really well with good projects and workshops. I am a bit involved in helping to make things run as smoothly as possible and setting up some workshops. It is not that the program affects Denmark's opportunities, but it gives some extra opportunities for Denmark to be part of that platform. And then you can discuss whether things are going well or badly with that platform, but it is actually going, I think, a little better than it did at the start. When the program was launched there was actually a lot, I would not say resistance, but there was a lot of non-interest from the various people, especially from DG Energy in Brussels. They did not think there was any reason to make a collaboration with China - why should they do that?

It took a long time, a year and a half or something like that, to get it going. And support from the Department of Energy was very limited. It is managed by the local delegation - after all, the EU has a delegation in China - and it is they who manage the programme. The idea has been to involve the various branches of the commission in the work. It has not been very easy

but the program itself has run very well. It has also generated some interest from Germany and also from Denmark and also from France and Italy. But especially Germany and Denmark have seen it as a platform they are able to use. So the short answer is that it was not us doing the groundwork who were affected by it. Conflict was on another governance level.

Ditte: Yes, it makes sense. And you could say that it is lucky that problems do not diffuse and affect the national level between the countries, but that it remains up at a slightly higher governance level between China and the EU.

Kaare: Yes, that is the workflow that Denmark also has been hoping for. That, for example, Denmark does not need to be overly severe in the criticism of China, because it could be left to the EU. So, to a certain extent they have tried to use the EU as a sort of umbrella against it affecting bilateral cooperation. At the same time, of course, it was hoped that the EU could also create some cooperative relations with China. But it has worked somewhat in the sense that there are some things that could well be left to the EU Commission.

You can say that this is precisely the part that has become more difficult in the Danish public opinion. There is perhaps greater pressure for Denmark to distinguish itself independently. It has been an undeclared policy that they did not need to criticize too much when they came as “little” Denmark, but it was important that the EU could criticize.

Ditte: Yes, they could lay out the overall framework.

Kaare: Yes, and the overall criticism. Yes, exactly.

Question 3.

Ditte: Are there any institutional factors related to the Chinese or Chinese political systems (policy-making procedures and informal rules) that impact the Sino-Danish cooperation? In addition, do you see any cultural factors as constraining or enabling factors for cooperation with China?

Kaare: It is clear that China wants to control in many ways. So, on the one hand, there is always talk about international cooperation because clearly, all their strategies contain an internationalization element. So formally speaking, they really want to collaborate. In

practice, they would also like to manage centrally how the collaboration proceeds, even down to the detail. And this means that when we collaborate with such an institution as the NLS Institute, which is such an integral part of the Chinese central administration, you are subject to some very strict requirements for reporting what you do. And also, that our Chinese counterparts have to ask before they do something, they have to be allowed to meet us. And that situation has become much clearer within the last five years. On a Chinese institutional level, they have really tightened up in relation to what they are allowed to do as an institution. And if they do not follow it, it is difficult to work in China. So of course they do.

Ditte: Okay. Would you say that it also affects the Danish side of the collaboration that there are slightly stricter requirements, or do you think it is more of a hindrance for the Chinese partners?

Kaare: It affects in that way that it is more difficult to set up a meeting.

We are so lucky that we have a large programme, which has been subject to the NDRC to its full extent in relation to who you collaborate with. It has given legitimacy so that we can hold meetings. After all, it will not be easy to ask each time if other partners are to be involved. So you can say that it is not destroying cooperation but it is a little more difficult. After all, we would like to have that ping pong and we have that on Friday - a workshop which is about scenarios. We want to bring in the best people from both Europe and China. However, we are so limited and we have too little time to arrange. We cannot go through the entire procedure to get all possible institutions involved, thus, we hold more of a closed workshop on Friday. But it is not something that hinders business partners in meeting each other. Because Denmark has a very long tradition of cooperation with China, I also think that it is easier for Denmark than for other countries to have this close cooperation with an institution that is very close to the central administration.

But I must also say that for the other (Danish) side it is clear that it is somewhat the same way. After all, you also have a Danish program that is financed by the Ministry of Foreign Affairs, and if you have to do something political, then of course it also has to go to the top first. So there is nothing exceptional in Chinese politics, that is just how political systems work. It is not because Denmark can do everything and that the Chinese are very limited. Obviously, there are some hierarchies in both countries and we feel very clearly that the path

to follow in China is very narrow at the moment. You cannot step on the side of the path, therefore, you do not do that either.

Ditte: Do you know why there have been stricter requirements, or what kind of development has happened there?

Kaare: It is a relatively consistent tightening by Xi Jinping. It is important to control the party - that is one of his slogans - it is not just to control the state, but it is also important to control the party. After all, very tight control has been planned. So it is in step with the geopolitical and political discourse development that we have to control what we do. There is no room for self-interpretation.

Ditte: Yes, it has probably become a bit more centralized, you could say. You mentioned something about internationalization in relation to the framework at the very beginning, I do not know if you can elaborate on what you mean by that?

Kaare: If you go down into the different strategies in Four Revolutions and One Cooperation, you will almost always find the international dimension among those five comprehensives. There is also something about having to work internationally, so it is a clear strategy for China to create collaborations. After all, it is not always on their terms to say what is it that they have to cooperate on. But there are some boundaries for what they will cooperate on. This is where they are very clear in their spitting, that you should not meddle in China's internal affairs. China has also said where they would like to have international cooperation - that is where they get the most out of it. But it is like other countries, it is just a little more obvious in China.

D. Yes, that is right. Everyone wants to have their own interests met, even when you cooperate, so it is not only to the benefit of the other - it is very natural.

Theme 2: Constraints and enablers for Denmark's cooperation with China through the Danish Energy Partnership Programme (DEPP) related to policy learning

Question 4.

Ditte: Do you experience cultural, geographical and ideological factors impacting Denmark's cooperation with China through DEPP? In which ways?

Kaare: Well, you can have different opinions about that. When I started in China, I was not really told anything. I had to familiarize myself with Chinese culture and I really had to keep the concept of guanxi in mind. And of course that is also true, but it is nothing more than that. I also need to know how the politicians in Denmark react and things like that.

For me it has been nothing out of the ordinary - e.g. how to hold good meetings and things like that. It has not been a big theme, you could say. And that may be due to several things. One thing is that where I work, it is the elite in China that I work with, they are almost all PhDs. And many of them have a PhD. from either Europe or the USA, and this means that they have also got used to Western culture and the Western way of working - so it makes it easier to work with. You can actually feel in everyday life that my colleagues who have not been abroad and studied or worked in China are a little difficult to work with.

Then there are these bridge builders (from the Chinese team) who are able, not necessarily to work the way we work, but at least they are able to understand why the Danes work the way they do. The second is that this very long cooperation means that the Chinese have a greater degree of trust. And personally, those I work with, I have worked with for 10 years, so it is not because we do not know each other very well. I got into my task relatively quickly and was one of the colleagues, and I have also, in international forums, been presented as Chinese. So in that way there has been nothing of significance.

The second is that the Chinese in this area are very interested in learning from e.g. Denmark and Europe. So there is no doubt that they have a real interest in absorbing and seeing how it can be used in a Chinese context. Then of course it is an obligation for both sides to see what can be done in a Chinese context and which experiences can be transferred directly and which cannot. But it is more of an analytical process. It is the same if you work with France. There are some things that do not fit into the French energy systems. So in that way it is not necessarily new information. Or, you can also say that there is as great a cultural difference between France and Denmark as there is between China and Denmark.

I do not think it has been a problem. It is of course something you have to keep in mind. But it is not something that dominates.

Ditte: So you can say that knowledge of culture is an advantage, as you say. But at the same time there is also mutual respect and a mutual curiosity to understand where the other party is coming from.

Kaare: You can also see it in the Danish Energy Agency, where there are visits from Shanxi and their local energy authorities. It is a good example of some provinces being very outgoing. But they also have some clear rules there. If they are going to travel then they must be in three countries at the most, and if they are in three countries then they must spend 10 days on such a trip. This applies both to the central administration and locally. But they do that too. A delegation has been to Germany and they have probably also been to 12 countries. It is not just in Beijing that they are internationally oriented, it is certainly also at the provincial level. They are very busy being on. It is not the culture that hinders, nor the local differences that mean that they cannot go out. People are generally very concerned about getting technology transferred. You can also say that, if you look at China's development, they have grown big by copying. It is not surprising. It is clear that there are some examples in Denmark. There is a part of energy researchers that become afraid that they would rather not have the Chinese over critical infrastructure or learn too much about completely advanced technologies that can also be used in another industry.

There are some areas where interest and conflict cannot be avoided. Except for this, my work is primarily the transfer of policy formulation, how to promote certain technologies, how to remove barriers and how to promote policies. It is not hardcore technology research. But it is clear that if you go into that area, you will probably find some examples where they have really tightened up in recent years.

Ditte: Yes, taking the whole situation into account, I can well imagine that there is definitely something in relation to critical infrastructure that has become much more difficult to collaborate on. And this is probably also where these individual strategies from the EU and the US confirm what is happening.

Kaare: Yes. That is actually very clear. The best example is the wind turbine industry, where it was hoped to enter the Chinese market - that was at the beginning. And it has been really difficult. It has not been difficult to come in and hand over knowledge but it has been difficult to build up a business in China. And this is clearly due to the fact that the Chinese have decided that they must build their own wind turbine industry. Priority must be given to local workplaces and factories. It was very normal in the 2000's. In Canada, there is another example where they had similar requirements. So it is not because it is special for China, but it ended up with the market share that you had hoped for from the Chinese side never being realized. It is a bit different with solar cells. Denmark has not been particularly forward-looking or technology-leading in this regard. It has been Germany and China, and there was also a fight where Germany gave large subsidies to solar cells to develop land. Partly to get some energy out of it, but also to support their solar industry, and this is where China came in, because they are good at building large factories and scale up.

The paradox of solar was that China built a solar industry based on exports, but they did not have the domestic market because it was too expensive. So if we talk about wind, in 2005 they launched with some very large programs, largely reserved for Chinese wind turbine manufacturers. The quality of their mills was not very good. Then you were through with the most important thing and then you had to see if any energy came out of it. An industry was built up and the foreign wind turbine market was kept out. The Chinese wind turbine manufacturers are very small on the export market, but very large in China. Solar cells were just the other way around from 2000 onwards. Europe and the USA have supported solar cells there. They cost a lot and China has built itself up with very large factories and mass production and brought the price down. But it was still too expensive for the Chinese themselves, until the global market collapsed in 2011, when Spain and also Germany began removing subsidies for solar cells.

This meant that exports decreased. In order to move forward in China, it was decided to create a support scheme for the solar cells in China. This saved the solar industry and at the same time made it easier to push the price down. Today, there are more large capacities with solar cells in China than there are with wind. It is very good that these technologies have been a strategic area of focus for China, where they rely hard on developing their own industry. It is also in the China 2025 plan they had for 2015. They designate the "strategic emerging industries", as they are called. In these areas, there are both electric cars and renewable

energy. Part of the plan was not only to become better at them, it was simply to come up and take over the home market. So by 2025 at least 80% of the home market must be in China.

This has of course had an impact on the possibilities of the Danish companies. But not for me and my tasks. I have had nothing to do with it. What we have done with relatively great success is to transfer the Danish experience with coal-fired power plants. Denmark and the Danish techniques have been good at making these coal power plants very flexible. They can run and regulate up to maximum production in a short time and then regulate down again. It is a bit of a pioneering effort that has been made in Denmark. So Denmark has really been a pioneer here and the Chinese have followed closely. We have transferred those experiences very well to China.

When we first started discussing it, both the Chinese companies and the researchers did not think they could do it. It did not mean that Danish companies enter China and built Chinese power plants. The knowledge they have says that if Denmark can do it, so can we. There have not been many millions in income for Denmark, but that is not the most important thing. The most important thing is that China agrees to reduce the number of coal power plants. The same applies to the electricity market. We have been good at transferring the European experience. It is not like it opens up a huge market for how to make technology. No, it is primarily about the transfer of knowledge.

Ditte: Are there any specific things you have done to make it successful? If you have to mention some specific tools.

Kaare: Now I take it with flexibility. It has been one of the things that has been important to get China to understand. In the project I mentioned with Vestas, which was about finding out how it fits into the Chinese electricity system, it was the first time we started discussing with them.

I clearly remember some meetings in 2011 where they did not have time to talk to us because they had problems building heating plants and they had to make new plans. It has been a very long haul, in many ways. I have had meetings with the grid companies, where we have had the Danish grid company, Energinet, involved.

We have had meetings with energy grid stations, we have had the Danish Energy Agency with us, and then we have had a research institution that is owned by China. There is a huge bid where the NIA sat at the end of the table, where Chinese researchers had been invited to present their findings on how the Chinese power plants ran.

We then got Danish engineers to come to China and talk about how to run those power plants. What kind of process did they have to do in order to be able to run these plants flexibly?

It was two different worlds, because those researchers had a biased attitude that it could not be done, and it would not be appropriate to run these coal-fired power plants flexibly. So all their research showed that it could not be done.

The Danes could not believe that it was a practice - that they had to show how to drive it - but they could also talk about how it was not so much about having new gizmos, but that you actually had to try yourself forth. You set up 1000 measurement points, and when it started to light up red, you had to figure out how to proceed. It was a very hands-on engineering approach. The Chinese researchers were told that they had to go home and redo their research because the Danes had different results from the research.

And that was perhaps the last point where it was said that, now we had at least got the energy administration involved. And this led to the energy administration supporting a project together with a Chinese think tank. They then ran a one-and-a-half-year project, where they demonstrated what it could mean financially, etc. They were also in the situation at the time, where up to a quarter of the energy production from wind turbines was thrown away, because they could not access the market because those power plants were not finished. They could not regulate down like that when you got into place. So it was a bad situation anyway. It then meant that they had that project and defined it as a pilot project, that they had to rebuild some power plants. Now it is an integral part of the Chinese strategy. I think it is up to 60-80 gigawatts that have either been rebuilt or are being rebuilt.

This is equivalent to about a tenth of the Chinese fleet. It was a very good example of the fact that it is a long tough move, and you cannot come with a delegation and then get it started. It has required many years.

D: Yes, a long time and a lot of trust too, I can tell.

Kaare: Yes. After all, many delegations come to China and then they leave again.

The worst part is that if you invite similar experts from Europe, they do not really know anything about China. They come with their own powerpoints and they stand up and present and then they leave home again. And that is what I experience - that if you do it that way, you start over every time, because the Chinese have heard that 30 times. So that might also be a big difference.

At a meeting, I am sure that the Chinese will first talk a lot about their own figures. Secondly, they will also be able to say the same figures about Denmark. They are aware of how the situation is in partner countries. Another thing is, there is someone who has unfortunately stopped working - one of the directors at NEA - with whom we had a very good relationship from 2011 to 2015. He was one of those bridge builders. It was important for him to know something about Denmark before he visited the country. After all, he visited Denmark every year during the period he was director. And it is often the perception that if you are an European expert in one or another country, you do not need to know anything. The norm is a bit that "we are the ones who know something, so now we must come and teach the others". It is often very wrong. It is at least an annoyance for us, because when these people come, it starts all over again with some standard knowledge that we heard three years ago. I do not experience that much anymore, but there was a period where it was extremely annoying.

Ditte: Thank you very much for that elaboration. I see that we have reached the very last question now.

Question 5.

Ditte: How are the policy recommendations from the Danish Energy Authorities featured in China's domestic strategy on decarbonisation? Do you know how implementation of the policy recommendations happens?

Kaare: We have had a very long collaboration, so we have good opportunities to follow up on the implementation. It actually means a lot that there are so many people doing the same as I do in the programme. A problem is that many people work in a two-year position, with the option of extending it for a year. And then there are some who might be extended a little more. To sum it up, there is a fairly quick replacement of people who work in the programme.

And this was especially at the time when the pollution was absolutely terrible i Beijing. People did not want to extend their two-year contract in China when they had children with them. The second is that when they did, there was a gap. It was not like you even had three months to teach the newcomers.

And I know I talked that guanxi down a bit. But in all diplomacy, networks are quite significant for cooperation. And that also applies if you are located in Beijing. So the network you build, first of all, it takes maybe two years to get a good network. And then you leave China. There we have been very lucky with the Chinese employees at the embassy, who in turn have been there for many years and have been good at keeping in touch. I kind of have had the advantage of being there for a long time too. So it has been a huge advantage for me, also personally, to be able to have that old network and know about it. And to have followed those stories and tell about it as it is. It is actually important for an understanding of what it is really about. And it is not something you can cultivate in a short time.

But apart from that, we can say that it is not the case that Denmark just conducts a report and sends it to China, and then that's it - that has no effect. But the Chinese still have, and especially at the beginning, they very much needed to be able to mirror themselves when they told each other about how China should develop. So I think it has been incredibly important to be able to say that “this is how you also do it in Germany, this is how you also do it in Denmark and in the USA”. So the examples you could come up with are not something we sit around inventing, it is actually something that has been done elsewhere. And that history of flexibility also shows that breakthroughs become so much more concrete. So in that way it means that the role model that Denmark can be, in certain cases, means a lot for how China implements things. It does not matter that we are a tiny little country - It is of great importance that China can specifically observe the ongoing policies.

It is also clear that when we talk about Denmark, we do so in a European context. So even though it is Denmark, which has a very small country and very little energy consumption, it is constantly presented that it is very similar to e.g. Nianxi having the same size as Denmark. Denmark corresponds to a province. Therefore, you also say that it is important for the provinces to cooperate.

It is also something that is, at least as difficult in China as it is in Europe - to get cooperation increase domestically. The thing about each province having their own financial goals and each having their own development plan means that they will not they sell their cheap energy to other provinces. In that regard, the Danish example is also good, because it is both what we do in Denmark, but it is also the way in which we work in connection with the other European countries.

And it is a special situation for us that we work closely with an institution that sits very close to policy formulation. And that means that our approach is to make the Chinese employees really good at understanding what we do in Denmark, and also using those methods in practice. For example, when we create our scenario, we ask ourselves “how can you make advanced scenario analyzes and get them to do it in practice?”. So the further process is not that we tell the NDRC what to do, but we enable the Chinese experts to advise the NDRC in a proper way. And it is not just that we send the report to the NDRC, but it is actually also that you send people to China and the NDRC.

After all, some of those we have worked with for the past eight years have also been transferred to the NDRC or posted, but they usually come back again. So in that way, you can say that it is a very indicative way of working, and it again requires that long tough groundwork, because when an expert quits, with whom we have spent a lot of time collaborating with around models, then we lack that expertise, and then we have to start all over again. But the advantage is that the person is somewhere else in the programme and has a much easier time collaborating. They find it easier to read CETO reports when they themselves have helped make the predecessor. So in that way, it is the whole process that creates the implementation more than it is something that we are tasked with.

But of course it also means something to us that Dan Jørgensen, he is traveling to China tomorrow, and has a two-day visit. There again, you can say that his work is much easier when we have done the basic work that allows him to flourish in that part. He has helped present our report at the last three COP events. So it has also been important for us to get the climate ministry's understanding of what we are doing, so that they also know that this collaboration is actually something of success. Their problem is that they demand how many tonnes of Co2 we saved with this programme. It is not quite easy. I usually tell them, “at least I have saved more than I spent on flying to China”.

Overall, I believe that Denmark has had a great influence on what happens in China.

I believe that to a large extent the strategy they have today is at least grounded in many of the analyzes and collaborations we have had in the last 15 years with China. And it shows that being a leading country is beneficial. After all, we do not have to reduce our Co2 emissions to save Denmark, or to reduce Co2 emissions globally, because that means nothing. But we must do it because we can show how it can do us good, and so that others can do the same. And that is actually what we do in China. It is an extremely trust-based approach to say to someone that we dare not, because we are not sure that anything will come of it. But giving the Chinese the opportunity to manage their own program gives them the responsibility

Ditte: Yes, it seems like a really good approach to collaboration

Thank you very much for your time and your reflections. They are very well received.

Appendix B:

Semi-structured interview guide

Introduction

This interview is a part of the research on Denmark's collaboration with China through the DEPP Programme. The objective is to examine the challenges and opportunities that impact the bilateral cooperation between Denmark and China on decarbonisation.

Introduction of the respondent:

Can you please give a short explanation of your role in the Sino-Danish energy cooperation?

Theme 1: Driving mechanisms of policy transfer

Question 1.

Based on your experience and opinion, are there any challenges regarding globalization, trade or economy that impact Denmark's cooperation with China? If yes, how?

Question 2.

Are there any challenges related to the EU and the EU's relations with China that impact Denmark's bilateral cooperation with China? If yes, how?

Question 3.

Are there any institutional factors related to the Chinese or Chinese political systems that impact the Sino-Danish cooperation?

In addition, do you see any cultural factors as constraining or enabling factors for cooperation with China?

Theme 2: Constraints and enablers for Denmark's cooperation with China through the Danish Energy Partnership Programme (DEPP) related to policy-learning

Question 4.

Do you perceive cultural, geographical and ideological factors as enabling or constraining Denmark's cooperation with China through DEPP? In which ways?

Are there any challenges related to technology? If yes, in which ways?

Question 5.

How are the policy recommendations from the Danish Energy Authorities featured in China's domestic strategy on decarbonisation? Do you know how implementation of the policy recommendations happens?