AR3U105 GRADUATION ORIENTATION
Deliverables

AR3U105 Graduation Orientation form	
Student Name	Kuan-Ting Liu
Student Number	5582911
First part: studio preference argumentation DEADLINE: 09/09 17:30	
1st choice studio + argumentation	Planning Complex Cities
2nd choice studio + argumentation	Metropolitan Ecologies of Place

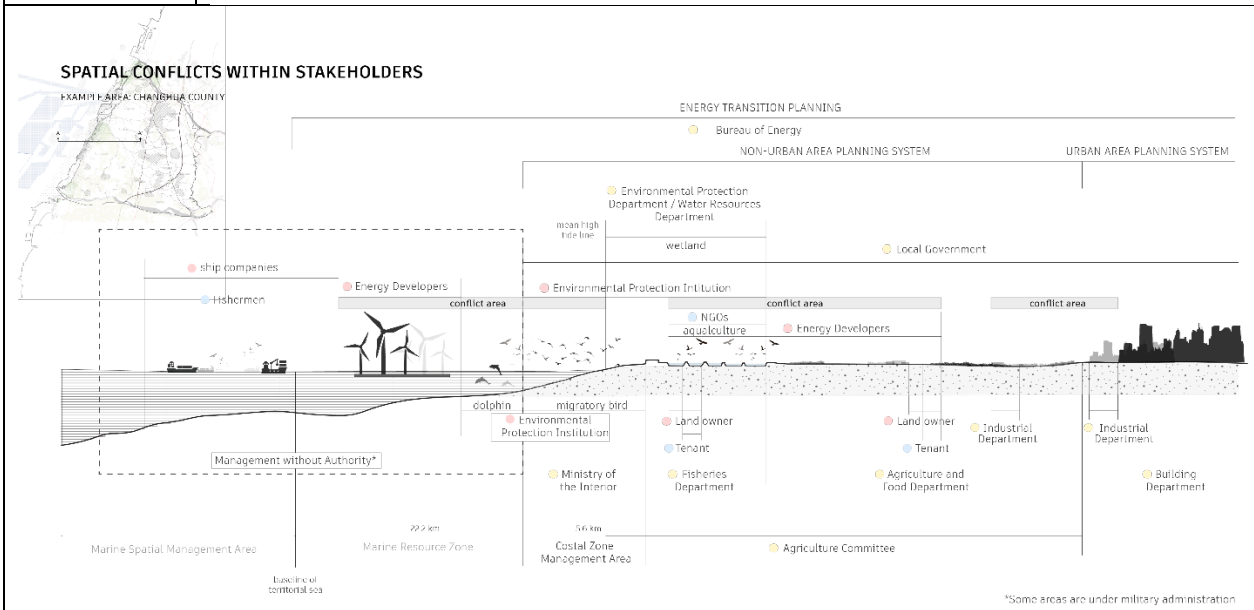
First part: studio preference argumentation DEADLINE:16/09 17:30	
1st choice 1st mentor + argumentation	**Marcin Dąbrowski** My thesis focuses on the regional planning scale with the theme of the energy transition, which matches Marcin's background and mentoring experience. I am impressed with the thesis Marcin mentored three years ago, which was related to India's justice energy transition process. That thesis emphasized the analysis and design of the implications behind policies and spatial scenarios, both of which are important goals that I intend to pursue in my research. In addition, I initially focused on only individual issues related to the energy transition process. However, the conversation with Marcin this week helped me rethink my motivation and revise it with a broader and clear vision. Taiwan faces multiple issues in the energy transition process, both domestically and internationally. Moreover, focusing mainly on planning for law and policy but lacking a discussion on the spatial implications has widened the knowledge gap between citizens and the government and ignored the impact of social injustice. Nonetheless, this transitional process still has profound potential, as I mentioned in the problem statement. Based on these insights, I plan to research more in-depth stakeholder engagement in planning and spatial justice issues in the energy transition context. I believe Marcin's expertise will be helpful in my research.
2nd choice 1st mentor + argumentation	**Roberto Rocco** Roberto has expertise in regional planning and spatial justice, two main points I would like to make in my thesis. Besides, combing his special focus on the studies on regional governance of energy and water resources can help me to pursue a deeper understanding of the energy transition context. Even though he did not mention stakeholder analysis in his expertise, I think the research on spatial justice will also include the idea behind it. Besides, Roberto also gave me much helpful information related to the energy transition during our conversation this week, which helped me reshape my motivation and decide to focus on energy justice. Also, one of his experiences investigated the relationship between design practice and academic research, which I believe will assist me in making the landscape-changing catalog under various spatial planning.

AR3U105 Graduation Orientation form

DEADLINE:28/10 17:30

Student Name	Kuan-Ting Liu
Student Number	5582911
Preliminary graduation project title	**Energyscape Implication Under the Taiwanese New National Spatial Planning System** - The scenario study of Energyscape's implication under the National Spatial Planning system to create a fair energy transition process in Taiwan.
Key words (4-7)	Energy Transition, Energyscape, Integrated Planning, Synergy, Participatory
Key images (min. 3)	 Collage showing different perspectives conflicts: social welfare, economic development, and environmental protection Source: Author

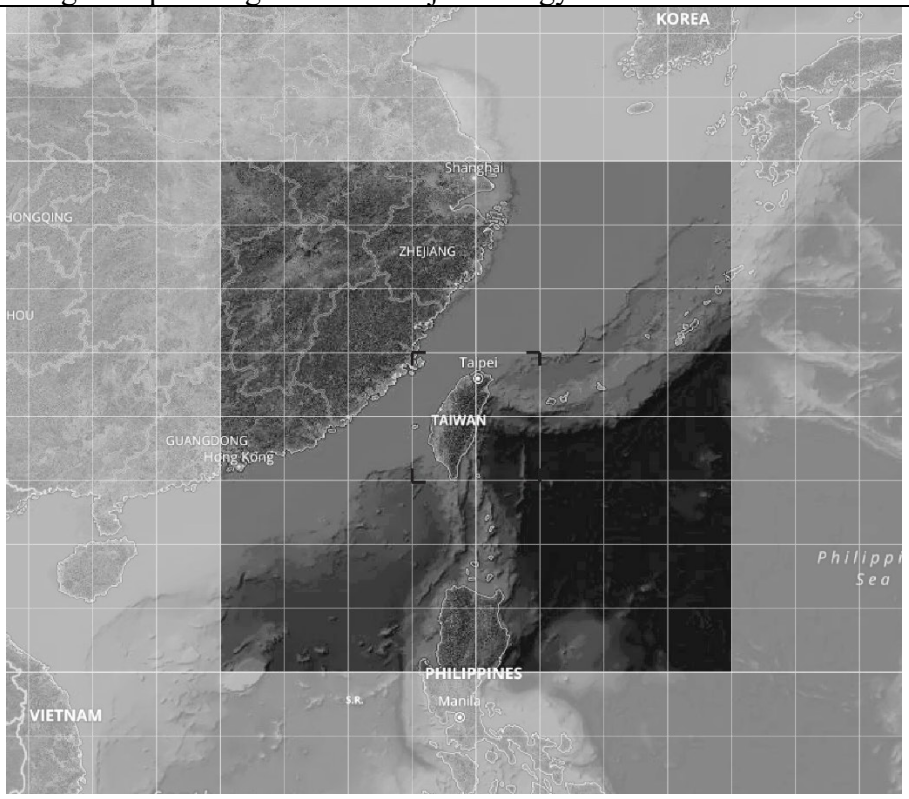
conflicts with society, environment, and landscape in Taiwan
source: Xu Zhen Tang & Lin Ji Yang

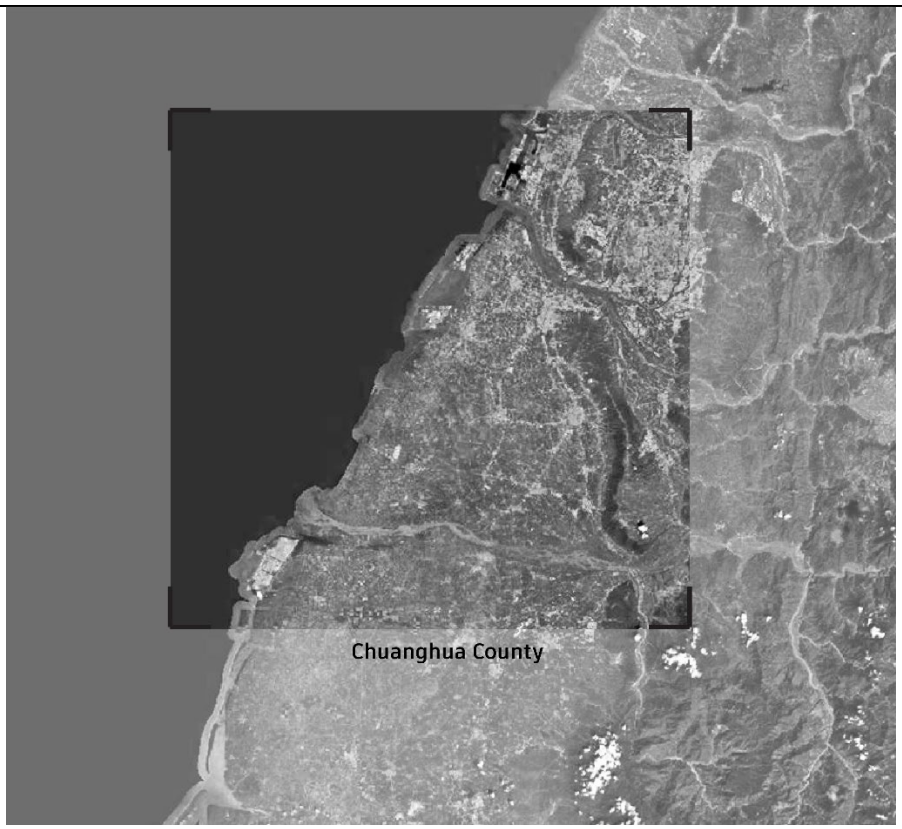


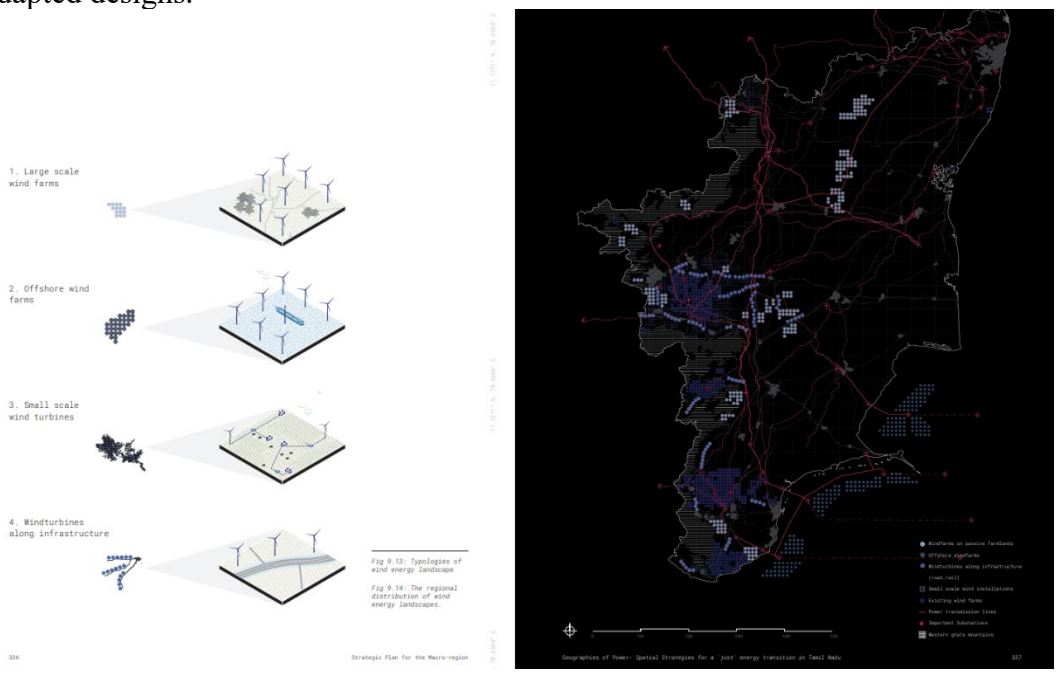
Example of spatial conflicts within different stakeholders in the energy transition process.
Source: Author

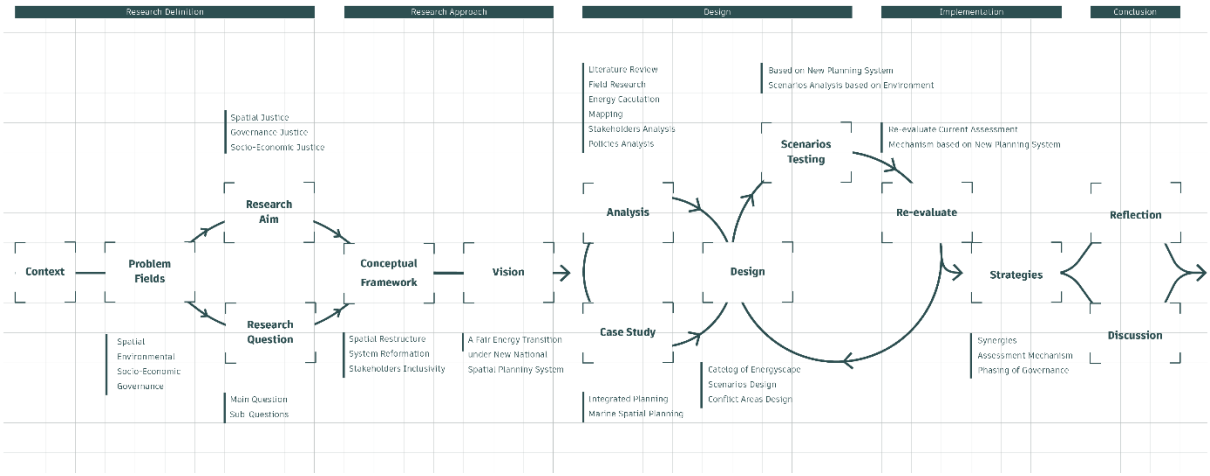
Key literature (max 5)	1. Pasqualetti, M., & Stremke, S. (2017). Energy landscapes in a crowded world: A first typology of origins and expressions. Energy Research & Social Science, 36, 94-105. 2. Smil, V. (2015). Power density : a key to understanding energy sources and uses. Cambridge, Massachusetts: The MIT Press

	3. Bouzarovski, S., & Simcock, N. (2017). Spatializing energy justice. Energy Policy, 107, 640-648. 4. Nadin, V., Stead, D., Dąbrowski, M., & Fernandez-Maldonado, A. M. 2021 Integrated, adaptive and participatory spatial planning: Trends across Europe, Regional Studies, 55(5), pp. 791–803.
Selected Graduation trajectory (argumentation) Design/Planning/Technology	I expect to develop my future career in a cross-disciplinary environment related to energy transition and planning. The energy transition is not a topic that can be accomplished by technology alone; it also requires structural planning as the backbone. Energy needs space to be deployed; in turn, space is also reformed by energy (Lefebvre, 1999). As various scholars have argued, energy and space inevitably influence each other. Besides, more and more countries have combined the energy and spatial planning department in order to implement more inclusive, adaptive, and practical planning for the energy transition goal. Therefore, I hope to hone my regional planning and design skills in the final year of my master's degree to prepare for my future career.
Main motivation for the project / Problematization	In Taiwan's energy transition planning process, several difficulties still need to be solved. First of all, the natural limitation by mountain area occupies almost 80% of the land area, which limits the available land. The second point is the challenges shown in solar and wind energy development. And the last part is the absence of an integrated planning system to lead the energy transition. Solar and wind energy have been two primary sources getting much investment. While owning profound wind sources in the Taiwan Strait, several conflicts have caused the planning to keep postponed. First of all, Taiwan lacks technique and experience in wind turbine installment, not to mention that the offshore wind farm building needs to rely on foreign technical support (Gao, Huang, Lin, & Su, 2021). Secondly, several planned wind-farms conflict with essential environmental protection areas (Zhang, Zhang, Chang, Liu, & Zhang, 2017). Furthermore, the issue of potential wind farms overlapping with the fishery areas has threatened economic development (Environmental Information Center, 2022). Fisheries and Electricity Symbiosis is a unique and experimental approach in Taiwan, which claims to improve aquaculture and produce renewable energy, providing a win-win situation (Fisheries Research Institute, 2019). Under Taiwan's energy goal of installing 20GW of solar panels by 2025, one-fifth of the contribution has to be completed through this new system, which means almost one-fourth of current fish farms will be included (Chiu, 2021). However, a significant number of outdoor fish farms have become indoor ones due to inadequate policies, not only threatening local fishermen's rights to work but also the environment used to provide migratory birds in southwestern Taiwan. The disorganization and the absence of a holistic planning system to guide the transitional process have even increased the difficulty of finding ground for renewable energy. Because of the fragmenting cooperation between departments at various levels, negotiation and collaboration for the energy transition have led to confrontation within multiple fields, pointing out the need for an integrated

	planning approach, especially when new planning systems are undertaken and more uncertainties may be exposed. However, these difficulties cannot be solved by any single factor but by understanding the impact that the national planning would bring to the locals. Thus, it is critical to study the implications for the energyscape, building on local considerations of social and environmental perspectives. Understanding the potential impacts will create more space for dialogue and encourage participation, bridging the gap between top-down and bottom-up planning; only from this point of view will it be possible to build practical regional planning and create a just energy transition in Taiwan.
Location(s) of your graduation project (for research and intended interventions) (add visual references, including maps)	 *Research location: Taiwan (source: NASA, edited by Author)*

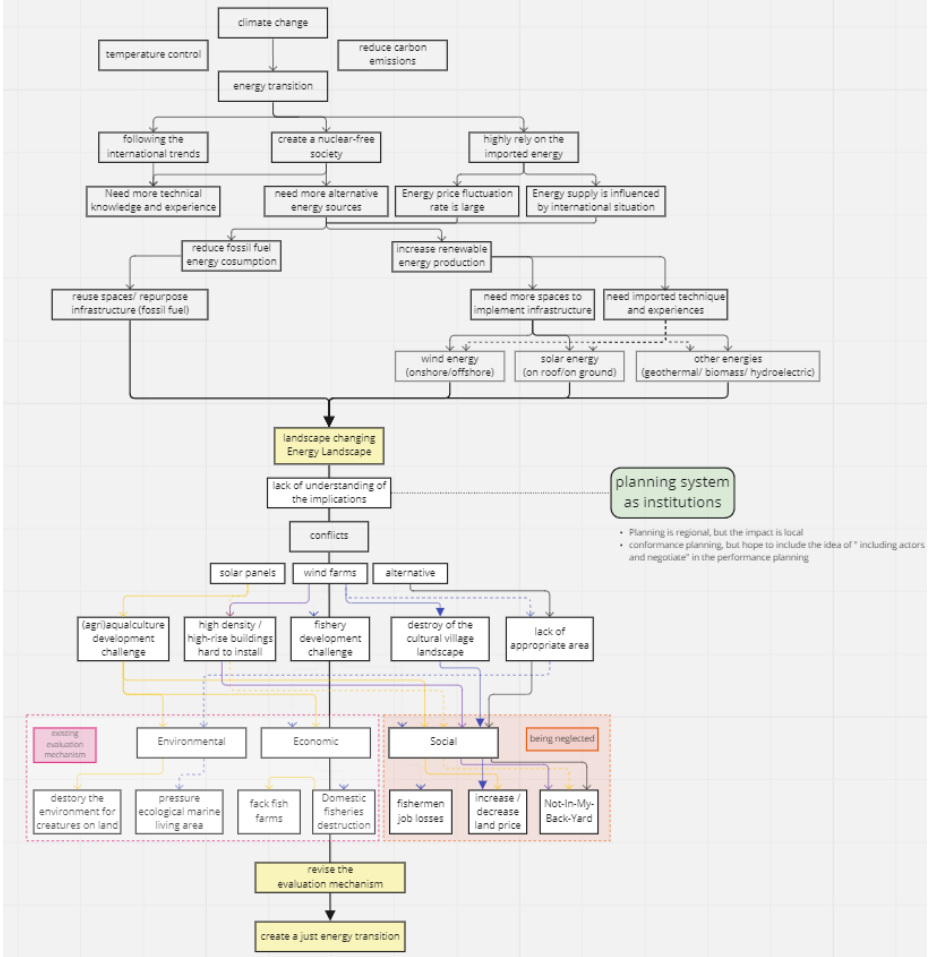
	 Implementation area: Chuanghua County (source: google map, edited by Author)
Aim of study	1. Create an **Eneryscape catalog** that provides a tool for analyzing the potential impacts of landscape change scenarios. 2. Re-evaluate current **assessment mechanisms** and improve participatory implementation in energy transition planning. 3. **Study the case of integrated planning** in order to reform the systemic deficiencies of the energy transition for the new national spatial planning framework.
Main preliminary research question(s)	**How to create a just energy transition under the new National Spatial Planning framework with an understanding of the energyscape's implications?** Sub-Questions: **1. Spatial & social conflicts** a) How to redistribute the power and interests of the energy transition to bridge the misunderstanding gap between government and citizens? b) How can participatory help in the transitional process and create a chance to collaborate between stakeholders? **2. System disorganization**

	c) What are the systemic deficiencies that may hinder the integration of Taiwan's planning system? **3. Landscape fragmentation** d) What spatial impacts of the new planning system need to be noted under the energy transition? e) How to define and analyze the impact of changes in the energy landscape that can be applied to all regions of Taiwan?
Intended concrete outcomes (add visual references, including reference projects)	By designing and categorizing energy landscapes based on different environments and using them to present scenarios for analysis. And by doing so, we can understand more in-depth spatial conflicts or opportunities under the new National Spatial Planning system. This means that under this integrated planning system, we would know more information about what we can expect and what to keep aware of and improve the participatory at the same time. The example shown below was done by Preetika Balasubramanian, who studied the process of just energy transition in India. In her paper, she presents a catalog of energy landscapes and uses it to give scenarios of Tamil Nadu. As for me, I would like to improve the classification of the catalog of energy landscapes, which will be compared with different types of environments. As for the scenario analysis part, I would like to frame it in the new spatial planning system to provide strategies and adapted designs.  Examples of partial energy landscape catalogs (source: Preetika Balasubramanian)

Indication of possible preliminary project approach (methodology / methods)	1. In the first part of my thesis, the research focuses on a literature review to understand the energy transition as an interdisciplinary field requiring a spatial planning approach and relevant perspectives. 2. The second part will be the design and strategy development, which will be a rolling process. I will do a case study related to European countries' marine spatial planning approach in this process. As a country that depends on the sea and plans to rely heavily on offshore wind turbines in the energy transition, it is essential to learn how to create an integrated planning system to reform this transitional and cross-governmental energy planning. 3. The last part will be a discussion and reflection on the potential impact of the energy transition under the new national spatial planning system.
 Methodology in my thesis	
Scientific relevance of your graduation project	"Whether spatial planning systems are equipped to cope with contemporary regional and urban challenges is strongly dependent on their capacity to promote integration between policy sectors, to respond adaptively to changing societal and political conditions, and to involve and engage citizens in decision-making processes. (Nadin, V., Stead, D., Dąbrowski, M., & Fernandez-Maldonado, A. M., 2021)" The concept of integrated, adaptive, and participatory planning has become a trend in most European countries in this century. In order to address contemporary challenges such as climate change, interdisciplinary collaboration is inevitable.
Societal relevance of your graduation project	Energy needs space to be deployed; in turn, space is also reformed by energy (Lefebvre, 1999). When facing a change of energy source and planning for the new one, it is inevitable to meet the impact in spatial. Especially when we are talking about the energy landscape, there are various opinions on it. Like the traditional energy landscape, most people think of loath, scarred, or ugly. However, when the renewable energy landscape comes to mind as an environmental-friendly and cleaner energy source, people still have a very opposite expression. That is, the reason for misunderstanding or the perspectives are sometimes subjective. But when facing a common challenge like climate change, which will influence our lives from all perspectives, then the need for down-to-earth implementation and

	inclusive discussion and planning is necessary to meditate our conflicts within societies.
Reflection on all Urbanism MSc3&4 studios: briefly describe the project focus when performed under studio (200 words per studio)	1. Metropolitan Ecologies of Place: This studio was my second choice of studio. I am interested in the focus field of the discussion in the energy transition in this studio, which needs to consider the influence of climate change and think from a preventive perspective. However, this studio always emphasizes a design-oriented perspective, which is different from my thesis foundation, the energy transition challenge based on a disorganized planning system. On the other hand, at my final stage of designing, I would explore more to design conflicts area from a spatial perspective. Especially in the urban area, there needs to be more discussion because the policy tends to distribute renewable energy in the outskirt area to prevent more conflicts in Taiwan. However, facing the expansion of the urban area, it is inevitable to meet the challenge of the peri-urban area becoming more urbanized. When it happens, those places that used to have renewable energy landscapes will be another conflict area that needs to be solved. That is, the work from this studio can provide me with more in-depth thinking and exercise on designing energy transition within the urbanized area, preventing future potential problems. 2. Design of the Urban Fabric: If my work is researched under this studio, the proportion of designing might become the majority. This studio encourages students to design, test the design outcomes, and then continue revising. However, it will be challenging because I need specific analysis to jump into the creative part as a foundation for problem recognition. Even though the design and research process is parallel, I prefer to design stand from concrete research. Compared to Planning Complex Cities has to reach a broader scale of planning and design, Design for the Urban Fabric tends to have a smaller scale of research. In the sense that this needs more down-to-earth design and implementation and focuses more on the details. When reviewing my thesis plan, it is essential to study the local scale of scenarios produced by the renewable energy landscape, which directly impacts neighborhoods. And from the perspective of having more detailed planning and a local scale of research, it will create possible to build up the bottom-up approach, relinking the planning approach highly relying on top-down planning and letting the voice from the bottom layers be heard. In conclusion, here might provide the chance to design more practical planning and complete my thesis planning. 3. Transitional Territories: Energy and space are two inseparable relationships. Even though the term energy landscape has not revealed until 2002 (Pasqualetti & Stremke, 2017), it has led to massive discussion from various fields. And one undeniable fact is that the transformation from energy has a multifaceted influence on society, such as economic prosperity, geographical structure, and even international relations. It is an

	impact rooted in a geographical perspective (Bridge et al., 2012). This studio emphasizes the discussion of territories and the topic of research related to climate change. A considerable proportion of my thesis discussion will focus on the conflict areas overlapping power and interests from different sectors. Especially during the transitional energy planning process because of the reformation for an integrating planning system, the research on the trade-off on the territories will be sensitive and challenging. Besides, when the discussion of the area in-between the maritime and city area, it will be interesting to argue the power and responsibility of authorities. One crucial fact in integrated planning is building collaboration between sectors. And due to the lack of a holistic planning system in Taiwan and the neglect of marine spatial planning for a long time, it will be a new topic to design various possibilities. 4. City of the Future: Unlike all the other studios, this studio provides more flexibility in searching for the study field. It emphasizes cooperation with different areas, such as architecture, building sciences, and landscape architecture. From the perspective of large-scale planning for energy transition and the idea of energy is a cross-domain topic related to the spatial, technological, economic, ecological, social, and political dimensions, it will be helpful to get knowledge from various fields and expertise. However, the flexibility also brings out the fact that exploration needs more independence in searching and studying. Energy transitions from a technical perspective, but there are still many uncertainties that need to be explored. Thus, it might not be enough time to complete such huge dimensions of intervention in one year of research, which might not be realistic and practical. Still, the possibility of thinking out of the box could be a new experience for an urbanist to understand the real world that needs to negotiate and understand the interaction and cooperation with various fields of expertise.
Ethical considerations	There are various societal conflicts in the energy transition process: environmental protection and economic development conflict with renewable energy planning. Residents can only understand that the implementation influences their lives with a complete conversation and information being informed. However, fishermen are facing difficulties due to decreased availability of fishing areas. Tenants are suffering due to incomplete policy-making that cannot protect them from losing the right to continue working on their renting farms because of the cooperation between land owners and private energy companies. Moreover, there is still less discussion on the planning within the urbanized area and what will be the potential impact growing in their lives. Even though the planning spirit is to include as much as possible of civic engagement, the real situation is that the opinion cannot be presented by the majority of society because the awareness and the education of related knowledge are still not common. Therefore, the discussion within my thesis has to be careful about presenting the opinion from which perspectives and whether

	the opinions are too subjective or narrow. Also, whether the research can present as a bridge between the government and the citizens' perspectives will be another challenge in my thesis.
Possible resources	**Taiwanese non-government resources** 1. Industrial Technology Research Institute: a technology research and development institution in Taiwan. Currently helping the Taiwanese government plan for the energy transition as a bridge with society. 2. Environmental Information Center: as an NGO, it shows various information related to the environment online. It provides many perspectives from residents whose voices are not being heard and the opinions from experts whenever there is new implementation or discussion is released from the government. **International energy information resources** 3. IEA: provides information related to the energy around the world. 4. European MSP Platform: provides information related to marine spatial planning within European countries. It can be a good case study for Taiwan's marine spatial planning under integrated planning and energy transition planning.
Mind map brainstorm on the project / topic	
Additional remarks	n/a