

Environment in Asia Series – Greening East Asia: The Rise of the Eco-Developmental State, December 2, 2021

- [Moderator] Hello everyone and welcome to today's discussion. We will get started after we give another minute or so for people to log on and join us. We thank you very much for your time and participation today.

- We will give our audience two more minutes to join us. Okay now is five past 10. I think we should start and the rest of the audience will come in or join in as we goes. So welcome everybody for attending another event for the environment in Asia researcher series at Fairbank Center for Chinese Studies Harvard University. Wonderful to see all of you online. My name is Ling Zhang, I am environmental historian for China. I'm teaching at Boston College. And as a research associate for the Fairbank Center. I convened this researcher series so it is wonderful to have you. Before I move on to introduce the panelists for today's discussion I encourage you to continue following our researcher series. And if you're interested you can always found our future events from the website of Fairbanks Center. You can just Google Fairbank Center for Chinese Studies plus events. So you can look, you can found us. So this event is the last event for this semester, but for next semester in the spring semester 2022 we have many exciting events coming up. We will begin the events with a conversation with professor Brian Lenda who is a environmental historian for early China. So we will have a conversation with him to talk about his recently published book which is entitled "The King's Harvest". A political ecology of China from the first farmers to the first empire. So it's very exciting. So we haven't settled the final the exact date yet, so please log on just go on to Fairbank Center to look for our future events. I hope to see many of you there. So without any delay let me quickly introduce today's panelists. So we are very lucky to have a four wonderful scholars to join us to talk about their collaboration. So I'm just gonna gave them each of them very very brief introductions. So our four panelists include professor Ashley Esarey from Department of Political Science at University of Alberta. And also then the second professor Joanna Lewis, the distinguished Associate Professor of Energy and Environment and the Director of the Science Technology and International Affairs program at Georgetown University. Our third speaker is professor Mary Alice Haddad. John E. Andrew's Professor of government and a chair and a professor of East Asian studies and a professor of environmental studies at Wellesley University. And then lastly our friend professor Stevan Harrell, professor emeritus from the Department of Anthropology and a school of the environmental and of forest sciences from University of Washington. So these are four distinguished scholars have recently collaborated in the project which had lead to the publication of a wonderful edited volume which is entitled "Greening East Asia, "the Rise of the Eco Developmental State". So without further ado I'm now gonna talk more about this wonderful book of which

I just finished reading, have learned a great deal. So I'm just gonna turn to our panelist. They will tell you about their collaboration, introduce the concept of the eco developmental state and many many thing more. So after their introduction, discussion, then we will turn to the Q and A section. So for our audience, if you have any thoughts, any comments, you can use the Q and A function to share your ideas with us. So we hope we can discuss we can include our comments your questions as much as we can. So here we are, our four wonderful colleagues. And this is your platform to educate us.

- Thank you doctor Zhang. I'll start off and talk about how this project came together and also served as kind of our internal time keeper. This project was inspired by time that I spent in Alberta's wild places. My province is famous for beautiful mountains including those like in the National Parks Banff and Jasper and for its expansive and bio diverse rich prairies. But Alberta's also known for a large energy sector that emphasizes the production of oil and gas. The former primarily from bitumen or tar sands. And here in Alberta small oil wells dot the prairies and natural gas extraction extends throughout the foothills of the mountains. And as an avid hiker and outdoors person generally I moved to Canada hoping to experience North America's disappearing wilderness. And I was at first dismayed by trips to the Alberta bush. And one of my department chairs said you're looking for wilderness, there's no wilderness left, or almost none. And I was finding that away from the urban centers and off the main highways the impact of the energy and forestry sectors seemed nearly ubiquitous. Including in the province's beautiful boreal forests. And it seemed almost as if the farther that I went from cities the more activity I saw. Logging roads and a remote camps extracting hydrocarbons. So as a scholar in East Asian politics I was wondering on these outings whether North American's had something to learn from East Asia. East Asian countries had long impressed me with their history of rapid economic growth despite relatively few natural resources. East Asian's also seem to know how to use their natural resources wisely. They used what they had and what they imported efficiently. Due to high population densities the environmental costs of post war development-alism that lead to serious air and water pollution had been visible to many people in East Asia. Whereas in Alberta by comparison it's possible for Edmonton-ian's and Calgarian's to go about their lives making an occasional visit to a national park without really encountering the full extent of environmental devastation. In the two cities that I lived in for the longest period of time in East Asia, Taipei in the early 1990's and Shanghai in the 2000's, everyone could feel the affects of air pollution in their lungs and in their eyes. You couldn't see the hills ringing Taipei through brown gray smog. The air on the Shanghai Stadium seemed indistinguishable at times from a smoke filled bar room. And it didn't matter what people's occupations were or what their political views were, people wanted something done about pollution. There was a sense of public urgency about making life sustainable for humans as well as

other species whilst growing the economy. And this prompted a reflection by a range of state and societal actors whose interest were importantly often aligned. And this led to a gradual shift in priorities at local, national, and regional levels, toward forms of development that were greener and cleaner for the environment. East Asian environmentalism has dual significance for the future of the earth. First, East Asia's environmental impact is arguably the world's largest. Addressing the region's environmental problems is crucial to building a sustainable future for the earth as a whole. And second, East Asia having increased its affluence after much of Europe and North America, but before South Asia and parts of Latin America and most of Africa, can serve as an example for countries likely to increase resource consumption in coming decades. My problem as a scholar who wanted to launch this project was that I knew very little about environmental politics or environmentalism. I needed help, a lot of help. Fortunately I had a hiking buddy, Steve Harrell, who knew lots about the environment and environmentalism in East Asia. The title of a 2016 conference I hosted in Banff. So I leaned heavily on Steve for suggestions of who we might invite to the conference. And perhaps because Banff is such an attractive location it's almost as attractive as hosting a conference at Harvard, a number of luminaries agreed to attend. And I included Joanna and Mary Alice and a number in hopes of generating some new insights. I wanted a really diverse group of participants. I had journalists who worked in post Fukushima Japan. Come speak I had Taiwanese environmental activists, South Korean nuclear scientists, anthropologists, sociologists, scholars of urban planning, and political scientists. And as you might expect, the exchanges at the conference were heated at times, particularly between the activists and the nuclear scientists. Then the book's four editors, myself, Mary Alice Haddad, Joanna Lewis and Steve Harrell put our heads together to begin to craft a conceptual framework. This is eco developmentalism about which Mary Alice will speak. And this framework connected and explained the findings of some 20 eventual contributors who would write about East Asia, this place where environment protection is increasingly seen as requisite and sustainable development is associated with new opportunities. Taken as a whole our book has 15 chapters that highlight the ways in which governments, activists, and indigenous communities, have attempted to ameliorate environmental challenges in China and Japan South Korea and Taiwan. This book has five sections, one on law and policy, local activism another section, environmental NGO's and coalitions another section, and then outcomes. So for this section each of the book's editors has agreed to speak briefly on one or more of these sections. And Mary Alice Haddad is gonna talk about the book's organizing concept that at the eco developmental state she's also gonna talk about local action. Joanna Lewis is gonna speak on law and policy. I'll talk about environmental NGO's and advocacy. And lastly Steve Harrell is gonna relate some of these outcomes of East Asian environmentalism. So with that I'm gonna go on to you Mary Alice.

- Thanks Ashley. Put my little time keeper on here. I wanted to underscore that after leaving the Banff conference I left feeling like every academic conference should be held in a place like Banff. It was a really extraordinary intellectual experience to kind of move between. The normal academic panel in which people pontificate and there's debate about whatever to hikes with colleagues in which you talk about coming research and puzzles and forge relationships that have now lasted almost 10 years. Kind of hard to believe that it's that long ago. So it was really a great experience. And Ashley did a terrific job of sort of talking about how the origin of this concept of eco developmental state was really a grassroots organic one in which Ashley gathered together a whole bunch of scholars from a wide range of perspectives on environmental policy, politics, environmentalism. Journalists. Advocates. And activists who just presented what they knew. And then we all wrote a variety of chapters or a lot of people wrote chapters. And then the editors tried to say or tried to find a thread that went through them. And one of the threads that we found was that what we do not see in East Asia is we do not see the shift from a sort of developmental state model to some kind of green crunchy granola eating model in which all sorts of warm fuzzy panda hugging folks are in charge. That's not what we've seen. We did not see a take over of green parties which we've seen in I mean it hasn't taken over in Europe but they certainly influence it. We also did not see big large professional NGO's around environment sort of push policy in certain directions in East Asia. Rather what we saw was this sort of broad historical trajectory which occurred at different times in each of the four policies that we were talking about. But they all followed about the same path. And the first one was super rapid industrial development which was successful and lead to wealth, societal wealth, and especially the growth of the middle class which meant that it also created a bunch of pollution. The combination of wealth in society and the pollution meant that citizens were no longer satisfied with just subsistence trying to live til the next day. And they started to pressure their governments. Interestingly in East Asia we see a diverse kind of governments that this pressure went against. So in Japan this happened in the '50's and the '60's and it was pressure against democratic government. In South Korea and Taiwan this was pressure in the '80's and it was against military governments. And in China it was pressure in the '90's and the early 2000's in up to the current moment, pressure against a sort of CCP authoritarian system. And in spite of the different political systems that were ruling parties at the time they all responded in one way or another to this citizen pressure. They didn't respond by completely changing the way they did things. The way they responded was to make slight adjustments to the way they are pro business environmental state policies their developmental state policies worked. And they made those tweaks to shore up environmental standards, to protect the health of the people that were citizens in their countries, and also to protect and promote the business interests of the companies that were operating in their territory.

This also happened in a global market where we see all of the East Asian countries are export oriented economies, at least that's how, some of them especially China has shifted now, but at the time when they were doing their rapid growth they were looking very heavily at the North American and Western Europe markets. And when the environmental regulations and the markets changed it became in the commercial interests of a lot of the East Asian countries to have stronger regulations because they were gonna be trying to export to those markets anyway. So you saw an alignment in certain aspects of environmental policy that aligned very well with commercial interests. Next slide please. Oh. Joanna we need the next slide. Well I'll just, I'll move forward and we'll get to it when we have a chance. So the what you see when you have a alignment of commercial interests and what we see in the developmental state, here we go, is that these eco developmental states which is what we're calling them, do not perform equally well across all environmental policy areas. We see them performing exceptionally well in areas where commercial interests and economic interests align with environmental policies. So in the policy areas where you see pro environmental policy generating economic growth and economic profit the East Asian eco developmental states do quite well. So you see them doing very well in areas of renewable energy, green technology, green finance. You also see them do well when the state capacity's pretty high. So forestry preservation, where the state has a fairly high level of control and influence over that sector. In contrast you see these states doing quite poorly in the areas where those conditions do not exist or are much weaker. So when pro environmental policy does not just not generate profit but actually costs a lot they do worse. When state capacity is low we've seen probably everybody on this call has traveled to East Asia, and we've saw Ashley's photos of the air pollution problem. Air pollution is one of these areas where especially increasingly it's caused by individual drivers running around in cars. And it's a lot harder for the state to control that kind of behavior. So when the state capacity is lower it does worse. And finally when whatever the ruling party is whether it's a democratic party or not, when its incentive to act is low it's not that interested and not that incentivized to act. So if the pollution problem, if the environmental problem, if the environmental policy issue is affecting high status, high income, and especially urban populations there is much more tension by all of these governments on these issues. And if that if the problem is showing up among marginalized populations that are pushed off then they are much less likely to be paying attention and doing much to deal with the problem. So we see this particularly environmental justice. So I'm gonna take my remaining time to kind of highlight a few of my favorite stories from the book. These my favorite part of this edited volume are these local initiative stories. I feel like a lot of this field covers national state and international politics but it's a lot harder for folks particularly that don't speak one of the languages of East Asia to access these really cool grassroots stories. So I'll just highlight a few of my favorite ones. The chapter by

Noriko Sakamoto talks about local energy initiatives in Japan. And these are post three 11. We have have a lot of problems in rural Japan in which populations are going down, there's lots of old people, the farmers are leaving their livelihoods. And so these local small scale renewable energy projects are solving many problems at once. They create energy in areas that are often under served or off the grid. They can help support the energy needs of local small scale businesses. They are funded by donations from the community and by folks that are interested in supporting the projects. And they are those supporters then get gift baskets that are locally produced produce. So it helps mitigate a lot of problems that the rural areas are facing. Next slide. Another great story. Comes from. Education programs. The chapter by Rob Efrid talks about nature education in China. And how many many Chinese children are now suffering from urban children everywhere suffering from nature deficit disorder. And it's just a lovely chapter that takes you into the parks outside of Beijing with children climbing into trees and parents getting their hands dirty and folks exploring what it is like to be part of the natural world when they come from concrete jungles. Final slide. Or final slide for me. And the last set of stories that I really enjoy come from Taiwan. So the chapter by Sasala Taiban et all, there's several authors in this, talk about two a number of different things, but two in particular programs that are reliant on the indigenous peoples in Taiwan. And they've found ways to tap into traditional knowledge networks to promote environmental conservation and also help eco tourism, cultural conservation, environmental education, and improve the actual material conditions of both the native people and the area that they are part of. So all these stories, and I didn't cover them all, from these local action chapters. But they're a real treasure in this edited volume.

- Thanks Mary Alice. We'll go now to Joanna.

- Great thanks. And it's great to be here, thanks everyone for joining. I am gonna pick up on the section of the book that talks about policy and law. So the four chapters that are in this section, a chapter I wrote on China's local carbon energy strategy, a chapter by Eunjung Lim on energy and climate change policies of Japan and South Korea. A chapter by Iza Ding on the politics of pollution emissions trading in China. And a chapter by Simon Avenell on legal experts and environmental rights in Japan. And for the purposes of our presentation today I'm not gonna try to go through all four chapters in detail but I wanted to just pull out a few comparative themes particularly focusing on the first three chapters which really look at China, Japan, and South Korea in a comparative perspective. Particularly all of them have a really focus, this is a book about environmentalism right, but these chapters all tend to kind of hone in on energy in particular and the relationship of energy systems to climate policy and how that informs climate policy implementation in these countries. As well as how countries are positioning themselves

with respect to international environmental diplomacy and particularly in the case of the international climate change negotiations. And then how that translates into how ambitious their climate pledges are that they set at the national level and then how those pledges are viewed by other countries. How these countries are viewed, are they climate leaders? Are they followers? Or are sort of more hesitant in this space? And so Japan, China, and South Korea provide a really interesting contrast here just to kind of run through each briefly. We see in Japan of course a country that's still very much fossil fuel dominant. And I always like graphs and charts so I put some statistics at the bottom for you all just to have the numbers in context. So they heavily rely on petroleum and coal and the de carbonization strategy really focused on energy conservation. This has been a real flagship initiative of Japan and of course nuclear. Although there was a bit of a pause during the Fukushima disaster, but really you don't have gone back to promoting nuclear full force since them. And some renewables development, although not as much as you might expect. Japan of course really began as a big player in climate diplomacy back with the Kyoto protocol in the late '90's. And really taking stewardship of the international climate process, but have since stepped back a bit. Japan has adopted strong climate policies. Japan is the only sort of we call industrialized country or formerly annex 1 country of these three countries in this region. But has fallen short of pledge goals and at least until recently. And so we've seen somewhat of a reduction in ambition. South Korea in contrast, there's some similarities with Japan. Again fossil fuel dominant, again reliant on imported energy, but the de carbonization strategy has been primarily focused on energy efficiency. This is talked about quite a bit in the Lim chapter. You see an increased focus there on renewables as well as on natural gas. And while there is a lot of reliance on nuclear, more of a they've been making more of a push to diversify away from nuclear in response to in part to public concerns. And South Korea's interesting when it comes to climate policy and international climate negotiations because it actually falls into a unique category in that it was classified under the UNF triple C as a developing country, but of course it's an OECD country. So sort of tries to walk this line as a developing country but also as an OECD member trying to be proactive in climate policy even with the challenges of it doing so because of its still fossil fuel dominance. And so again has adopted strong policies but has fallen short of many of its goals. And then of course turning to China, a well studied story and where my work focuses on China's own low carbon transition. We really see the story of coal dominance presenting a technical and a political economy challenge to China's de carbonization. I was actually on a U.S. China dialogue last night focused specifically on just transition for the coal industries. This is a huge issue of course in the United States but even more so in China where it's such a big employer, such a big economic driver within the country. And of course we've seen really over the last several decades significant evolution in how China's positioned itself in the international climate negotiations. As its role has become more

central its of course become more in the global spotlight as it rose to become the largest national emitter in the world. And so while it used to be somewhat of a obstructionist player in these negotiations now it really tries to at least be viewed as a leader. We see alliances with the United States, the joint declaration that came out in Glasgow a couple weeks ago and of course leading up to the Paris Agreement. And when you look at the details of what China's doing at the domestic level you see climate goals that are relatively modest in this decade in particular. And while they're I should mention all three of these countries have set mid century carbon neutrality goals, South Korea and Japan for 2050 and China for 2060. Which is really quite ambitious for all of these countries to be signaling they're moving in that direction. But. If you look at the numbers we need to see more ambitious goals from China this decade in order to get on that path. The chapters. By. Doctor Ding talks about the really complex center local policy dynamics as illustrated specifically through the case of emissions trading and how that's involved in China from specifically being focused on criteria, air pollutants, and now of course to China launching the largest national cap and trade system for carbon dioxide in the world. And what that really means and how much substance there is to it, this is a really interesting critical chapter of that system. And really I think highlights the tensions that we see in China with implementing international best practices like carbon markets in a non market economy with all sorts of inefficiencies and trying to patch that together. So just to kind of pull out some of the eco developmental state themes we see here in comparative perspective and kind of modern day China, Japan, South Korea, and climate policy. All of have really experienced this fundamental shift towards sustainability essential to development although with different priorities driving this because of domestic differences and challenges. Huge diversity of course in this part of the world in governance structures, policy formulations, as well as technical challenges to environmental protection and de carbonization really rooted in all countries on their continued reliance both on fossil fuels and on industry. These are all countries that still are big exporters, play big role in global trade. And so the shift has impact what they do domestically has impact beyond just the region itself, beyond just domestic policy goals because these countries play such a significant role in global trade and investment. And I think one really tangible example of this was where we saw I think regional pressures really leading to in this case a race to the top. First in energy efficiency where many of the lessons learned in Japan were transferred to China and throughout the industrial sector. But also now with the recent overseas coal investment ban where we saw Japan come forward, then South Korea, and then China when president Xi announced that China would stop financing overseas coal plants at the UN general assembly this past fall. So. I will stop there. But. I think. It's an interesting section of the book that focuses more on the high level governance structures than the local, which I think is a complementary perspective to the cases that you'll hear about from



Mary Alice and from Ashley.

- Great. Now. I'm gonna. Talk about the fourth section of the book. And it relates to environmental NGO's and other forms of social organization. And this section includes a chapter by sociologist Hua-Mei Chiu. Environmentalism and Kaohsiung Which is Taiwan's largest city in the south. A chapter by Pai Wan, not Taiwan, Pai Wan anthropologist Lengmengman Rovaniyaw on indigenous attitudes toward nuclear waste. And a chapter by Yves Tiberghien a political scientist about the battle over GMO foods in South Korea and Japan. And a chapter by two sociologists Jinyung Dai and Anthony Spires about grassroots NGO's and environmental advocacy in China. I'll talk first about the Hua-Mei Chiu chapter in Kaohsiung. A city of about three million people, Kaohsiung has long been a hub for manufacturing and shipping. It's notorious in Taiwan for poor water quality and air pollution. It has the most contaminated industrial sites and CO2 emissions per capita. Average life expectancy in Kaohsiung is over four years shorter than in Taipei yet as Hua-Mei documents, the city has experienced a rise in environmental activism. And this occurred first in the form of NIMBY type protests or what she calls self-help protests beginning in the 1980's. And these related to such concerns as the dumping of chemical or nuclear waste, advocacy of recycling. And then the second phase was the emergence in the 1990's of urban conservation activism. And this reflected a desire among members of the middle class for more urban green space and the protection of wildlife and biodiversity. A third phase that she documents beginning in the late 1990's occurred when middle class concerns over industrial accidents and the large industrial footprint in the area lead to collaboration between the conservationists and the community activists. And then a final phase that she looks at from the late 2000's to present sees a convergence take place between urban environmentalism and community based activism in the activities of such organizations as Citizen of the Earth, an organization that she has close ties to. And this was an organization founded by lawyers and scholars and it's funded entirely by public donations. As of 2017 this organization had something like 20 employees. And it works with members of the community who are concerned with pollution, how it affects agriculture and aquaculture. It launches media campaigns, it lobbies local and national politicians. This is an organization with multiple offices in Taiwan. And it conducts scientific studies on pollution and its economic impact. Next slide. All countries that utilize nuclear power have a problem. What do you do with the waste? The chapter by Lengmengman Rovaniyaw examines attitudes in two Taiwanese indigenous communities toward the storage of nuclear waste. In one instance the government energy monopoly known in English as Thai Power or "Thai Bian", secretly stored nuclear waste on Orchid Island or "Lanyu" going back to the 1980's. The Taiwan people there are resolutely opposed to the continued storage of nuclear waste and they have mobilized that cohesive leadership, island churches, and impressive local and national media power to support their cause. In

the other instance there is a village known as Nantian of Taiwan people and it is relatively supportive of the storage of nuclear waste. So the puzzle that Lengmengman is addressing is why this difference. Because the difference in attitudes is so stark. Resistance to nuclear power in Lanyu has grown particularly after the 2011 Fukushima nuclear disaster that led to widespread concern across Taiwan. And eventually president Tsai Ing-wen would apologize in 2016 for the continued storage of waste on Lanyu. Going to the village of Nantian and the Taiwan people there, proposals to store nuclear waste on the nearby mountaintop have been linked to a compensation fund that's seen as particularly attractive in a community that is weakened by what Lengmengman calls welfare colonialism and reliance on government handouts. The community's cohesion has been weakened by government resettlement initiatives going back to the Japanese period, and hollowed out by the departure of younger generations to work in cities. Meanwhile money from elsewhere in Taiwan has arrived and funded such things as shrimp farming. Lengmengman also sees the influence of Han culture as having diminished traditional connections to the land through traditional farming and hunting, with the loss of a traditional relationship to the land among Nantian villagers and a sense of a loss of autonomy over the land use. Leading them to feel like there's no reason to reject the storage of nuclear waste in their area. The next chapter I'll talk about is by Yves Tiberghien concerning the battle over GMO's in Korea and Japan. He's examining public resistance to genetically modified organisms here. And while the bio tech industry had the first mover advantage over information, and this helped it to shape subsequent policy by pro science and pro trade governments in Japan and Korea to regulate GMO products in a way that is pretty much similar to how other crops were regulated. The situation changed greatly in the late 1990's and early 2000's. And the first thing that happened was the European Union began to develop strict new regulations, and then Japan, Korea, and even China adopted rules and laws that required mandatory labeling, environmental assessments, tough guidelines on new proposals, and placed restrictions on new experimental tests of GMO's in open fields. So the puzzle that Tiberghien addresses in this chapter is that's why two democratic and formerly developmental states chose to introduce costly barriers to trade and industrial development. And in answering this question he argues that we can't ignore the role of civil society as what he calls a conditional catalyst for change. In both Korea and Japan, NGO's challenge the legitimacy of existing policy networks by reframing debates, creating linkages between local governments and urban policy and entrepreneurs who Yves argues use both the issue to increase their influence. And NGO's used international platforms by importing norms and examples of political mobilization from Europe. Next slide. The chapter by Jingyun Dai and Anthony Spires called Grassroots NGO's and Environmental Advocacy in China looks at the strategies pursued by relatively low profile NGO's in Guangdong Province. And these include such things as the cultivation of a stable interactive relationship with government, the use of state channels

for communication, careful selection of frames to articulate concerns and preferred goals, and obtaining media exposure to generate societal support and to pressure the state. The authors note that at times these three different strategies are used simultaneously. The project draws on interviews done with eight registered organizations in Shenzhen in Guangdong. And it's clear from the accounts of NGO activists that street mobilization allowed that practiced in Taiwan, Japan, or Korea, is essentially off the table. Rather, the activism that is pursued is cautious peace meal and limited to environmental issues strictly, they don't go beyond the movement issues. In a context in which the state remains both the main agenda setter and final decision maker. Some observations about this section. Taken together the chapters highlight the salience of social organizations and environmentalism and the advantages of cultivating a working relationship with the government, whether it's a local government or a national government. Perhaps more important though has been the ability of activists in Korea, Japan, and Taiwan to connect to other organizations through loose coalitions of citizens thereby retaining grassroots legitimacy and benefiting from mature activist repertoires and the resources of professional activists. The cases of Japan, Taiwan, and Korea also help us understand why NGO's in China are weaker by comparison. In China under Xi NGO's operate in a highly circumscribed space and are fearful of oppression. It's noteworthy that die and spires draw on anonymous interviews from NGO's to write their chapter. Whereas the information for the other chapters comes from on the record interviews, participant observation, and publicly available information. In the democratic East Asian polities environmentalists can engage broad swaths of society on a range of issues, whereas in China these actions might be perceived as a threat to national security and the CCP's hold on power. Also due in part to a defensive turn in Chinese nationalism that is responding to the country's deteriorating image in the developed world, and perhaps the Chinese 2016 overseas management law, international resources whether these are information norms or capital are less accessible in China. And lastly media power which is crucial to activists in all of these chapters can be more flexibly and readily utilized in democracies. And this allows NGO's there to more directly influence narratives and to rally the public to pressure the government for change. All right I'll stop here and we'll go onto Steve. Outcomes.

- Oh thank you. I'm just so happy to be part of this outstanding series that Ling has organized. And I'm really looking forward to the next one, presumably in January and Brian Landers book which I just got in the mail so I haven't read yet, but it looks wonderful. Yes outcomes. How does all this all work? And my role in the conference was to sort of be a sort of elder statesman who's really too old to do any research so I have to kinda summarize everybody else's. And so I came upon this concept of a environmental Kuznets curve which was developed by some Greek economist in the early 1990's. To explain the trajectory of development and environment anywhere. And it's named

after Simon Kuznets, have to have homage to Harvard here a little bit, a Nobel Prize winning Harvard economist who talked about the curve where in the process of development inequality gets worse and then it gets better. And he's turned out not to be right. But these environmentalists did a parallel thing and said that well in the process of development first we have the dark satanic mills and then we have the return to England's green Jerusalem. And. We how well can we adapt this to this idea to the developmental trajectory of anywhere in the world, but in this case of course East Asia? So next slide. The and I started thinking about this, okay why is it that we see a first worsening and then a partial return to better conditions in a process of development? And so I was thinking about some drivers of this. You go in energy you go from low use in a traditional agrarian society to increasing but inefficient use to more efficient use. Pollution abatement is unnecessary really in a traditional agrarian society in the early stages of industrialization it's unavailable or either you don't have the technology or they're too expensive. And the technologies become more affordable and available as we move to a wealthy country. State mobilization traditional states as we know from Ling's work they mobilize for a certain things that have to do with the environment like controlling the Yellow River. But they don't necessarily mobilize for pollution abatement or abatement of the environmental damages that come from agriculture. And they don't mobilize at all when they're totally concentrated on developing. And then of course they are going to increase it for the reasons that Mary Alice and Ashley have outlined in the first parts of this talk. And then there's citizen pressure. As all of our other presenters have talked about there's no such, it's not a concept, not a thing in a agrarian empire. At its low in a early stages of industrialization, partly because citizens are glad to have rising material standards of living, and partly because they're unable to organize, and it gets higher and higher as you go along. And then finally at the bottom we have off shoring externalities, that is to say the wealthier a country the more it can export its environmental damage as we've seen China for example trashing the whole Congo for cobalt to make batteries for electric vehicles. Okay next slide. So I decided, well it seems apparent that there's certain aspect of environmental change or environmental degradation that are easier to remediate than others. That tend to follow this environmental Kuznets curve pretty closely. And there are other places where it simply doesn't work, things just continue to get worse. And so I started looking at certain factors that would characterize these different aspects of environmental change. And one of the factors, I can't say them all here don't have time, but one of the factors is what I call the bio physical time to reversal. In other words, air pollution, you get rid of air pollution a couple of days, you just have to stop the cars or stop the factories, stop the barbecues in Beijing in the summer. And within days the air clears out. We saw this in 2008 Olympics, we see it every year in China for the "Yanghui" the government symbolic legislative meetings. Water pollution takes a little bit longer, deforestation

takes decades to centuries, and we go on down the list and we see the climate change. The climate will cool again but climate scientists can tell us, four, five, six thousand years and we're back to where we are now. And bio diversity loss of course, yes we have a great extinction and a few tens of millions of years later than other species come to replace it. So we have this these are very different time scales. Okay next slide. And so another factor is how noticeable they are. Air pollution is as Mary Alice talked about in her early talk here, everybody can see it. You walk out the door, Taipei, Beijing, Tokyo, Seoul, wherever, and you can't breathe. Climate change is totally unnoticeable, this is why people could say oh it was a hoax. Nobody has ever said that water pollution is a hoax, but climate change is a hoax and you can get away with this among certain populations because you don't notice climate change as much and you can attribute it to other causes. And these other aspects of the environment are in between. Okay next slide. So I added up a bunch of different factors which included all the different drivers that I had in the second slide there. And came across with this EKC susceptibility index. To what extent can we expect a particular aspect of environmental degradation to be remediable through the process, through the trajectory that is the central concept of this book from developmental to eco developmental. And you can see that again air pollution is a very low index, it means it's easy to remediate, relatively easy. Deforestation is in the middle, and of course something like ground water depletion is very difficult, we would not expect ground water to be restored, water tables to come up again after they've been depleted for agriculture and industrial development and so forth. And in fact worldwide we see this. No place is restoring their aquifers. A lot of places are cleaning their air. So let's go to some examples here. And I'm gonna talk totally about two things that often get conflated but they're very separate. One is air pollution which is at the top of the list and the other one is climate change which is at the bottom of the list. And we're fortunate that the ministry of ecology and environment in China has posted the ratings for six or seven different pollutants every single day in 200 cities since December 2013. This is an incredible data set. Now how accurate it is, I have no scientific expertise to know. My guess probably pretty accurate. And if you look at the example here, take air pollution and ask the question, does it follow this environmental Kuznets curve? And so I because I don't have infinite time or infinite research assistants being retired, I decided I would pick eight cities out of the 200 and some. They're all large cities and they're representative of different characteristics of urbanization. And look at what it was like in January 2014 and January 2020. Now this is you have to take my word for it, I didn't cherry pick these data but you could've picked a different year, a different month, and you would've found something very similar as I did. And I took the air quality index, that is to say the average for the month, the air could be maximum that is to say the worst highest number during the months of January. A PM 2.5 which we all know is the primary pollutant. Sulfur oxide's and nitrogen and ozone. And ozone in

fact tends to be higher in the summer than in the winter. So instead of January the ozone figures are for July of each year. And down at the bottom you have the 2020 figures, and you notice that a couple of things. One thing is that sulfur oxide they solved it How did they solve it? They introduced a series of increasingly tight standards for sulfur content of gasoline and enforced this with the refiners, that's all they had to do. Really really easy. You look at ozone, hmm, no place except for perhaps Nanjing, and that had to do with a arbitrary place where I drew the line between the green and yellow. But ozone has not improved. And of course the ozone is because of cars. Right. And the other interesting thing of course is the Ürümchi which is the capital of Xingjiang the Uyghur acrotomous region has not improved anything except sulfur dioxide. But you could see in general that air pollution is remediable and follows the trajectory for eco development-ism. Last slide. Now. Oh this is what I call the green development paradox and I'm shamelessly poaching on Joanna's chapter here. But if we think about climate change, if we look at the graph on the left, energy intensity in China between 1980 and 2017 has decreased by about a factor of four. This is green development in a sense it takes one hell of a lot less energy. And in China of course it's mostly coal powered energy and hydro, to produce the same amount of product. However at the same time total energy consumption goes up. And that's simply because China has grown so fast. The economy is about 30 times the size it was in 1980. So even as you green your development it's still development and that means a lot more energy. And then finally the last slide shows the trajectories of green house gas emissions in China and Japan. Japan has managed to actually start to bring it down. This may be because it's further along, whereas China's proposing right, carbon neutrality by 2060. And. That clearly is not enough. So what we're saying is that this trajectory of development-ism to eco development-ism or as represented by the environmental Kuznets curve, works for some things but it doesn't work for other things. Thank you.

- Thank you. Thank all four of you for such rich information in a really structured way to introduce your collected collective collaborative project. And especially on behalf of your colleagues, I learned a great deal. So I can, I have so many question to ask you I can ask you about how you can talk more about the historical trajectory, the transition from the developmental state to the eco developmental state. So speaking as a historian right, we pay attention to these historical change. What's I can ask you about the question why how do you define East Asia and choose East Asia as analytical units while paying attention to internal complexities? For instance Mary Alice you repeatedly talking about yeah political systems were different right. And I can ask you about the question for instance like local initiative actually ran into all kinds of conflicts. Ashley you mentioned all these cases, where's the state initiative? We can go into Joanna, you mention the state policies and state agendas. Actually in many cases a state was so lagging behind

right. China used your language, it's such a reluctant leader on the global arena. So there are so many question I can ask you, I can't ask you about how you collaborate. But I wanted to keep as many as much time to our audience. So audience, please if you have questions, and now is the time for you to formulate your question, to share your comments, please use the Q and A function of this webinar. And I notice, and there quite some audience actually viewers are currently on YouTube right watching the YouTube streaming of the event. So but if you are the you cannot really ask questions. So you may want to switch to webinar or ask your colleague friends to send your question or comments over. So I will gave you a minute to send some question over but I've already see some here. But I will take a chance just to ask one question. That is actually a follow up with Steve's outcome and actually pay attention to the last message and the last page of your book. In which Steve talk about so what? So what's about what do we look forward to right what's the future? And if I can quickly mention bring up this last paragraph at the end of the book right the outlook is far from, quote quote, far from hopeless if we move faster they combine the effects of the rise of a popular environmental consciousness and the eventual emergence of the eco in the eco environmental state which are described in this volume, allow us to hope let's hear this message, that by 2040 or so, Beijing, Shanghai, and Chengdu will follow the examples of Tokyo and Taipei. That rivers and lakes all over the East Asian region will be clean. And then that most of East Asia's forests will be flourishing and sustainable. So this is a kind of more hopeful message right. So I would like just put this back to you and ask all of you to reflect on after doing this project. So what are we talking about here? What's your personal scholarly assessment? Yeah just tell us about how East Asia will be like? I know historian we shouldn't do any prediction business, but I would like to hear that. I hope, I think our audience will like to hear something from you too.

- Well maybe I should say something since I was I wrote that sentence. And. I think it comes back to what I said in the talk. I didn't talk about forestry today even though I spent the last five years in the forestry school at UW. Just in the interest of time. But deforestation is the other thing that's easy to fix with regard to, relatively easy to fix, with regard to environment. And I'm sort of taking the examples of other countries that are farther along in this trajectory and the fact that Germany is restoring its forests. U.S. forests have problems because of fires but there more forests in the U.S., a lot more than there were in the late nineteenth century as professor Worcester could tell us. And, I see him on the Q and A here. And. So that and L.A. I grew up in L.A. The air in L.A. when I grew up was way worse than Beijing at the time of the air apocalypse. Now it's not great but you can breathe it. You can go downtown and your eyes don't water. So. This is why but I have to qualify this by saying this is only certain aspects of the environment. Climate change is gonna get worse. It's already in the fly wheel in the system. And so that's not

going to, we could stop it eventually, but we can't send it back.

- Maybe I would just add briefly to what Steve said. I mean people always ask me when you work in China how do you sort of stay positive seeing the extent of the environmental challenges there? And my response is really just that while there are still other significant challenges to be addressed no question, the change that we've been able to witness in a very short amount of time is really quite dramatic. I mean just the rapid pace that which China has been able to introduce renewable energy for example. When I started working in China about 20 years ago, and as a grad student went to China to study renewable energy and got laughed at, got laughed out of the room by most government officials who said china will never do renewable energy. And now they are by far the dominant country in deploying this technology, have done so at scale, albeit with some challenges and issues. But I just think this shows that there are things that can be done, particularly in this part of the world that where you have the real technological prowess and sophistication. And we see this in the innovation space and just really interesting examples I mean across China, Japan, South Korea, and Taiwan. Because of the real investments in technology, that things can be scaled up really quickly if the government chooses to.

- I'd like to add one more piece on this which is one of the things that I've found the most interesting and where sort of my own research is going is not at the national or international level but rather at the municipal level. I see a lot of the biggest most impactful, most far reaching actions happening by cities, big cities, small cities. And they're the question by Peter Perdeux in the Q and A around international forces versus domestic forces. And one of the things that I find really fascinating is that these municipal forces are now international. Because you have organizations like C40 and others, E Clay and others where the big cities are making really big changes. And they don't get quite as caught up in the various partisan politics or nationalist politics that the national governments or national parties have to deal with. Because they're not, they can't deny climate change. I mean there's you can deny climate change all you want but my streets are flooding, so call it what you want, I gotta deal with flooding in my streets. And that's true whether you're in Buenos Aires, or Shanghai, or Hong Kong, or New York. And so I see a lot of positive really exceptional action at the municipal and trans national levels. And so I'm really interested to see how that moves out. It doesn't mean that we don't still need to move as fast as we possibly can. But I see a lot of positive action there not just in East Asia but around the world.

- I'll just say a couple of things because the remarks made by others have been really really great. One comment about political systems. In doing this project I was really surprised by the extent to which there wasn't that much difference between the outcomes of these very



different political systems. I think you can kinda group the democracies in one category and China in a different category. But as Steve I think convincingly points out, you're seeing similar sorts of things happen across all of these qualities. And that was really surprising. And isn't this sort of thing that someone trained as a comparative political scientist like me would necessarily expect to find. It was counterintuitive. Another really interesting thing is to see how incentives have been mobilized to get firms and government working together for renewable energy projects. Whether in China or Taiwan where I've been looking at renewable energy policy a little bit. And yes, this is a wonderful optimistic story to tell, and I think that's part of the reason why I was so excited to be a part of this project for me having been to China and Taiwan a lot over the last couple of decades you really see in a place like Taiwan, a transformation of the way that people see their physical environment. A growing concern with biodiversity that has become pervasive in popular culture. And a sense that there are lots of ways for citizens to get involved in protection of the formosan black bear, or since the recently rediscovered cloud leopard. And indigenous knowledge is also being mobilized in really important ways in Taiwan too as part of re-imagining Taiwan's national identity. And just briefly too, the international question raised by professor Perdeux. I have the sense that China's becoming more nationalistic and less international-istic, and less internationalist. And this means that it's harder for international resources, information, norms to flow to China in ways that they have flowed into the other qualities that we look at in East Asia. And I think that's gonna slow the ability of the public to continue to have a voice in environmental issues, but I don't, as I think this book shows it's environmentalism in China takes many different forms. State backed and bottom up from society. So regardless. Of the obstacles in the way of international influence flowing to China, I think we're gonna see the kind of eco development-alism Chinese style take place that has been so inspiring in the last couple of decades.

- Great, thank you so much for all these insights. So we are gonna turn to the Q and A's question comments send by our audience. And since two of you have already invoked name of Peter Perdeux I think we should go to Peter's question first. Because our audience cannot really see the questions, so I'm gonna read out the question. So Ashley, Mary Alice, you already mentioned touched upon this question. So if Joanna's, Dave, if you have anything to say we can quickly look at Peter's question and or so Steve call out professor Donald Worcester's name and so we will then go to Worcester's question next. Then we will cover all the other questions. So Peter Perdeux from Yale University asks the question, you focus primarily on domestic forces for environmentalism but you also mention international effects. The need for export markets participation in global organization et cetera. How and when does international environmental change of attitude cause domestic change? Is the PRC becoming more

internationalist or more nationalistic on environmental issue? To this Ashley just gave his response. And just wonder if the four of you have any little bit to add to Ashley's answer?

- I think we're all good with it.

- Fantastic answer Ashley thank you. Let's move to the other name that Steve invoked, professor Worcester, an environmental historian for world environment history and U.S. environmental history. He says, great topic and impressive experts. I want to get your book. Great news. Do you discuss in the book something I regard as highly interesting if not profound emerging in China at the highest level, the vision of quote quote ecological civilization which has been made part of China's constitution? We can dismiss it as rhetoric. But it seems to be having a policy impact in terms of the pollution abatement and Soil protection, wild lands, and endangered species. But so far nothing on the question of a population policy as a part of eco civilization. Can any of you give us the views on China's ecological civilization initiative?

- Thank you professor Worcester, I've actually written about this in a chapter of what I hope will be a forthcoming book. And. I think I try to boil down a complex answer into short enough that we have time to talk about something else also. But I think rhetoric is important in a sense that ecological civilization is an attempt to reconcile the eco in a eco development-alism with the compulsory Marxist historical teleology that must be part of all general historical arguments in a communist ruled state. And so ecological civilization becomes a stage in Marx Lennon Stalin Mao's historical teleology following agrarian civilization and industrial civilization. Then we have ecological civilization. And given the Marxist idea of the primacy of the substructure, the ecological civilization goes along with advanced socialism just as industrial civilization went along with early capitalism and early socialism. And so in other words, how can you be environmentalist and Leninist the same time? It's by fitting the environmental mediation and environmental sustainability into what is not questionable in a current political circumstances of China which is that we're moving toward a socialist communist industrialist future where you can hunt in the morning, fish in the afternoon so forth. So. I think that's why ecological civilization. But it's not, it's rhetoric but it's not empty rhetoric because it does go along with concrete efforts to do the things that you mentioned in the question, that is to address pollution, soil, wild lands, endangered species, so forth. So that's where it comes from. The other part of your question is about population. And I think there's no coherent population policy in China. If we look at since the founding of the People's Republic, extremely pro natalist under Mao. Right, more people more strength. And encouraging and very very high birth rates combined with low death rates because of very good public health which communists are always good at. It lead to huge population explosion then we go back the

other way. One child per family, forced abortions, nobody has a brother or sister, I mean a few people do. But anyway and now they're worrying their tails off about the fact that we don't have any more people, we're gonna have all sorts of old people. So it's completely incoherent and it shifts back and forth in a kind of not random but extreme way. And I think the reason why population policy hasn't come under this ecological civilization yet, I haven't seen it, maybe some people are dealing with it, is because nobody can figure out a coherent way to put it in. Given a population policy as going from extremely pro natalist to extremely anti natalist back to extremely pro natalist.

- Any of you would like to add to this particular question, ecological civilization? Okay. I can tell that we have a many more question coming up. So and we have a precious 13 minutes left. So let's try to rush to other questions and try to talk about them as much as possible. So the next question comes from Chris Nielson, if this is the Chris that I know then this is Chris Nielson. The executive director of a Harvard China project, energy, economy, and environment. So if this is the Chris that I know, Chris says in comparing countries environmental path it's important to recognize how much cross fertilization has happened, how they have been influenced by experience of countries that have reduced environmental harms before them and importantly to what extent they're learning is the result of international policy. A positive example is air quality progress in which Taiwan, South Korea, China, engage intensively and purposefully with policy actors and scientific communities from U.S., EU, and Japan to speed their progress. Comparing the Kuznets curve in this case. A negative example might be carbon trading in which China was influenced by EU and U.S. policy experience. Though its energy markets and policy environment arguably not conducive to its successful implementation potentially affecting the Kuznets curve in the opposite direction. It complicates simple path analysis. So this is a more as a comment. So. Any would you like to say something to this comment?

- I'm happy to start it if others wanna join. Ashley did you wanna go?

- No no please go ahead Joanna.

- Hi Chris. No I completely agree. And I think, I mean the chapter that I was talking about written by Iza Ding in particular really talks about this idea of political theater with the implementation of the cap and trade scheme in China. How as you all know I mean it isn't necessarily the most well designed approach for a non market economy as I mention. And so you've actually seen a lot of really interesting unintended consequences. And then of course constant modifications of the cap in trade, I shouldn't say cap and trade, it's actually not cap and trade right there's no cap, and minimal trading. So it's really a carbon market with Chinese characteristics. And really about a sort of tradable performance standard. And but the chapter actually really

looks a lot at the air pollution history of this. And so while I agree a lot of this came from the numerous bilateral engagement happening with the U.S. and EU at the national and sub national level to try to I think encourage China to move in this direction as well as many NGO's of course. You actually did also see a lot of these internal politics play out with the MEP or the former MEP having this experience on emissions trading and then sort of when they were delegated the climate authority then that kind of moving becoming higher level policy priority even though there was a lot of discord within the government about what made sense for Chinese climate policy. So I agree, there's obviously all these complexities. And in this book we have these sort of in depth case chapters. And the doing the cross case comparative in very short amount of time is hard to do I think to give justice to the diversity.

- Steve do you wanna respond to that comment?

- Oh no I think Joanna's.

- [Ashley] Okay.

- Covered it nicely.

- I've got one--

- Mary Alice.

- Few quick yeah few quick responses. The first is I totally agree. These are not simple unidirectional paths we've seen forward and backward on certain policy areas. And especially in China we've seen some parts of China go really far and other parts of China go backwards sort of Steve's earlier little rubric with these has pollution improved different metrics in different provinces underscores that. To my thinking, this is another way another area in which it's very useful to look at the sub national level whether it's at provinces or municipalities, there are provinces and municipalities that are taking cues and using models and using partnerships abroad to move really fast and far. And other places that are not doing that. And so I think that that is really interesting. Another angle on the same question that I found really interesting that emerged for me in our study of this was not the policy transfer lessons but the politics transfer lessons in which in my view the CCP looked at the fact that environmental protests in South Korea and Taiwan merged with pro democracy protests and contributed to the successful democratization of those two places. And the CCP in my view is not interested in repeating that experience. And so would like to follow the LDP successful getting ahead of these political pressures from the grassroots and from the citizens by moving really fast and far on these environmental issues to reduce that citizen pressure. And in spite of extensive widespread protest in a lot of citizen unrest, the

LDP stayed in power. And the CCP wants to stay in power too. So the one way to do that is to really address these questions and I think they are moving fast. And so in my view it's not just policy lessons that are transferring, it's also political lessons that are transferring across borders.

- So Mary Alice, since you mentioned this the political issues, I think we should go to this question that about this issue. So all of you, let's see if you have anything more to say. So this question is about from Duncan Marsh. Did the authors, so all of you and your collaborators, attempt to do a comparative analysis of how environmental issues are more or less effectively addressed by different types of political systems? We did hear about the deferring constraints and those approaches of a civil society in different political cultural contexts, but less on the overall governmental and societal responses. And the resulting capacity to address various problems. So Mary Alice you just touch upon a little bit on this. So and would you like to say more all of you?

- Well I think I just wanted to say what reiterate what Ashley said earlier, the differences are remarkably small surprisingly small. When I taught China's environment class I used to ask the students to write on thought paper on whether socialist or capitalist or that's what we used to say, now we say democratic and authoritarian which of course isn't quite the same thing but that's we slice things differently depending on the discourse in the media. Which was better. And there's simply no way to say. I mean on the one hand authoritarian regime can act more quickly. On the other hand, authoritarian regime can act more arbitrarily. And how these actually weigh one against the other, you have to look at the empirical cases.

- I could just follow up quickly on that. This was a big question among the co editors when we were putting the volume together there was live conversation among us and among authors that contributed in the conference about whether we could actually measure and come up with a metric that would determine this. And the answer was that we couldn't. It was really hard to come up with some kind of uniform way of measuring success. And. Then to try to come up with measuring regime effect on that success. And so we did try actually and were unable to. And so one of the reasons why the volume takes the form that it does is that we've found that these case studies and comparative chapters that gave insight into these questions were more useful intellectually than trying to come up with some kind of arbitrary thing. As a sort of side note, my own single authored book project which is called "Effective Advocacy Lessons "From East Asia's Environmentalists" which came out in March of this year from MIT, had this as a core question, not in terms of outcomes but in terms of advocacy. I went into the project assuming that Japan which was a democratic state, would have a big wide range of effective advocacy techniques and that South Korea, Taiwan would have a sort of more

narrow range. And the China would have a super super narrow range. And in that project I found that actually the things that worked worked everywhere. And that that was a surprise to me in that project and it showed up again in this edited volume which has a lot more variety of cases. We see of failures that show up a lot of places. Like the poor indigenous poor people get shafted all the time no matter where you are. And rich companies do pretty well no matter where you are. And that is somewhat surprisingly consistent across regime type.

- If you talk about regime types the real question in my mind is though what do you say about Brazil?

- Well this actually bring up our next question, and I hope they persuade you to stay behind for a couple more minutes to because there so many question going on here. So the next question is what is the major differences between the East Asian eco developmental state and other developed and developing country that use the quote unquote eco as industrial initiatives? Any thoughts on this beyond East Asia comparison global comparison?

- I would just prod Mary Alice to bring out some of her research on this because she's looked at exactly this sort of a question with a large content analysis project and interviews. So do you wanna talk about that Mary Alice, comparing East Asia to global trends?

- Sure I guess. I eluded to before I was sort of surprised that there wasn't more variation across the East Asian countries. I was also surprised in my project on advocacy that there wasn't more variation between East Asia and other countries. And there's a sort of idea in the field that East Asian environmental advocates tend to work cooperatively with their government a lot more and protest a lot less than people elsewhere. But my research suggests that not really actually. People everywhere around the world generally do not engage in street protests, they generally don't file lawsuits. And when they do they mostly fail in those efforts. And so a lot of the advocacy techniques that you find in East Asia are also present elsewhere in the world. And so I think one of the things that's exciting for me about this project is that it offers, I like to think a kind of hopeful path that even under contexts where you might not expect pro environmental policy to emerge you can see it happen. I think one big difference that we might see in eco developmental states in East Asia versus other states that are calling for green growth or eco this or eco that, is the really critical function of high state capacity. You see reasonably high state capacity and relatively close business government relations in all East Asian countries. And that can as we saw, lead to failures in environmental policy in certain policy areas, but it can lead to pretty rapid success. But if you're looking at countries where you do not particularly high steak capacity or not very functioning civil society sector you're gonna see, it's gonna be a lot harder go get progress on environmental policy making. So I

guess that's sort of my perspective on the usefulness of this model elsewhere.

- Thank you so much Mary Alice. Obviously the person who asked the question or many people in audience interesting same issue you should and follow up with Mary Alice's research on transcontinental comparison. So here we reach end of our event. But there's several questions we haven't been able to address including one question directly which was directed to Joanna in direct relation about nuclear energy. And also there's several other questions. So all four of you, since you can read questions, do you have another just final words? Anything you would like to say we haven't been able to say? Just last two minutes, please share your thoughts here.

- I actually answered that question in writing so. On nuclear so that should be--

- Fantastic. Yeah Ashley please.

- Yeah I'm delighted by this project and how it's gone. And it's been I felt so incredibly lucky to work with Joanna and Steve and Mary Alice. And I'm gonna do something like this again. I'm getting ready to host my next conference at Banff. This time we're gonna look at renewable energy in East Asia. So if you've been tuning in today and are interested in contributing to a conference of this type and maybe who knows to a subsequent publication, we'll see, look for my call for papers. It's in draft right now and I hope to circulate it soon. And if you can't participate in person in Banff this will be in late May or early June, then maybe you can participate virtually, we're gonna have both options. So that's something for the radar of scholars in this area out there as well as graduate students who might have a paper already or be working on one that could relate to renewable energy in East Asia.

- Well. If this we could use that as the final words to conclude a already very rich very successful project conducted by all four of you lead by Ashley. And now we are hearing about another new awesome project on renewable energy. So as Ashley said if you're interested in this topic in regard to renewable energy, in regard to East Asia, direct all your questions, send emails to Ashley and to all of our four panelists. With this note I am going to say we have a wonderful discussion here. Thank you so much for organizing this wonderful project, presenting extremely readable extremely insightful book. And I wanna quickly mention the research methodology that the four of you actually suggested by incorporating scholars from different disciplines. But also inviting activists, scientists from different realms of the world to form different kinds of diverse conversations. I think this is really the right way, the right method to go for the future, and especially since scholarly research environment is getting little bit tough right now. so I would recommend if we have any

graduate students online right now listening to this panel, you are witnessing a very fruitful outcome of a trans inter disciplinary collaboration. This is a really good model. Thank you for sharing our work with us.

- One more thing Ling. Thanks again. Three of the authors or three of the chapters in our book, all of them happen to be from Taiwan, are authored by scholar activists. And so and two of them indigenous. So scholar and activists should be hopefully a what a blurry boundary.

- Thank you very much. Have a wonderful day. And I look forward to talk to all of you very soon in the future. Again at our audience if you're interested in our research our event please check the website of Fairbank Center For Chinese Studies. And just quickly remind you, our next event at the beginning of the spring semester will be about early China, archeology, political ecology, the formation of early China. So I will see you then. Have a good day everybody. Bye, take care.

- Thanks Ling this was great.