Slide 1: Introduction (30 secs)

Hello. I am excited to present this overview of our project exploring carbon-neutral pathways in Thailand on behalf of my team from the Pacific Northwest National Laboratory listed here.

Slide 2: Collaboration (2 mins)

This project is funded by the US Department of State’s Bureau of Energy Resources or ENR. Aine Shiozaki from the State Department leads and guides this project which falls under the umbrella of the broader US-ASEAN Smart Cities Program.

I have to say, that more than the technical advancements, about which I will speak later, we are most proud of the genuine spirit of collaboration and teamwork that has flourished throughout this project.

On the technical front, we have fostered a very strong relationship with our colleagues from Thammasat University where Professor Bundit and his dedicated team have guided the development of our scenarios and model inputs throughout the modeling exercise. Our Thai colleagues have acquired commendable proficiency in operating a state of the art integrated assessment model, while our dedicated US team has made substantial strides in refining the model's inputs, calibration, and sectoral representations, all thanks to the invaluable feedback received from our local partners.

It is important to recognize that model development and analysis has been only one-half of the project and a key determinant of its success has been the interaction and guidance from our policy and decision makers on the ground responsible for implementing the findings. We are especially appreciative of the time, through reviews and feedback we received from our esteemed colleagues from both national and city scale organizations. At the national scale this included EPPO, EGAT and ONEP while at the city scale this included both MEA and BMA.

On the right are some pictures from our teams visit to Thailand in January of this year where we were very warmly welcomed by all of the various entities just mentioned. We are very excited to be going back this August, to delve deeper into the results of our analysis and to forge even stronger ties with our counterparts.

Slide 3: (1 min)

Next I want to summarize the motivation behind this project.

With rapid urbanization combined with growing energy demands the role of cities in national decarbonization scenarios is becoming increasingly important. At the same time we must recognize that climate mitigation and adaptation is driven by complex global interactions across socio-economic, political and earth systems.

In recognition of these facts, this project has focused on enhancing a state-of-the-art integrated assessment model – GCAM, used by the IPCC in all its reports and findings.

In single holistic model, GCAM captures the interactions and flows of these complex system from a global, national and for the first time in this project, at the city scale in Thailand and Bangkok.

Leveraging the power and advancements of this model from the past 40 years we have been able to explore a range of decarbonization pathways and policies at both the national and city scales.

Slide 4: (1 min)

This slide shows a summary of our analysis and pathways to a carbon-neutral Thailand in 2050. On the left you have the Business as usual scenario showing total emissions in 2050. The bar shows the emissions from the buildings sector in orange, from industry in green and from transport in blue. The striped portion of the bar indicates indirect emissions coming from decarbonization of power generation.

As you move towards the right each smaller block represents the emissions reductions coming from a range of policies that have been modeled based on various national and city plans for each sector. This brings us to the middle of the chart where we have the residual emissions after considering policies from the various sectors.

Finally the GCAM model is used to explore additional policies that are need to reach carbon neutrality in each of the sectors as well as negative emission technologies shown in the grey bar on the extreme right.

In the table shown at the bottom we show the contributions of Bangkok to these national scale results. Immediately we can see some key insights, such as Bangkok is expected to contribute to 10% of the total emissions in 2050. Even more striking is the estimated potential of Bangkok to contribute up to 30% of the national emissions reductions in buildings and to a smaller extent in other sectors.

Slide 5: (1 min)

Key insights from our analysis include the following:

* Heavy electrification combined with decarbonization will be the key drivers for reaching carbon neutrality.
* Energy efficiency and demand-side measures will also play a crucial role to decrease overall energy demands
* Hard-to-mitigate sectors will require CCS and offsets using sequestration technologies.
* The Bangkok metropolitan area will play a key role in these pathways as we already saw
* Finally the assumptions and expectations of carbon sequestration from Land use change strategies will have major implications for mitigation efforts needed in other sectors

Slide 6: (1 min)

We explore all these and other sensitivity scenarios in our detailed analysis, available publicaly on our website listed here. We continue to update these results as our project progresses and I invite you to explore our webpage for the latest information regarding this project. Please also feel free to reach out to me directly with any questions.

Thank you for listening.