



PNNL- Thammasat October 2022

October 18/19, 2022

SE Asia Digitalization Project



PNNL is operated by Battelle for the U.S. Department of Energy



Agenda



- Recent and upcoming deliverables
- January Trip Logistics
 - Official letters to MEA, BMA, EGAT, EPPO
- Modeling discussion
 - Responses to electricity generation comments (in progress)
 - Discussion of the service satiation parameter for urban cooking
 - Initial emissions results for full set of scenarios (policies + emissions constraints)
 - Discussion of scenario design and policies

Recent and upcoming deliverables

GCAM Training Session	Timeline
GCAM training 1	Jun 2022
GCAM training 2	Oct 2022
GCAM training 3	Dec 2022

Workshops	Timeline
Workshop 1 with local institutions	Sep 2022
Workshop 2 with local institutions	Jan 2023
Workshop 3: ASEAN Best Practices workshop	Jun 2023

Deliverables	Timeline	Status	Milestones
Memo 1: 1 Page memo with list of official Thammasat team members and roles	Sep 2022	Complete	Milestone 1
Workshop 1 Plan: 1 Page Agenda and Participant list for Workshop 1	Sep 2022	Complete	
Memo 2: 2-3 Page Memo with Feedback on Input Data, Scenario 1 and Scenario 2	Nov 2022	Complete	Milestone 2
Workshop 2 Plan: 1 Page Agenda and Participant list for Workshop 2	Nov 2022	PNNL Review	
Memo 3: 2-3 Page Memo with Feedback on Scenarios 3, 4, 5	Feb 2023		Milestone 3
Workshop 3 Plan: 1 Page Agenda and Participant list for Workshop 3	Apr 2023		Milestone 4

January Trip Logistics

Date	Attendees	Location
Monday, 16 Jan	US Embassy, PNNL	95 Thanon Witthayu, Khwaeng Lumpini, Khet Pathum Wan, Krung Thep Maha Nakhon 10330, Thailand
	USAID, PNNL	Athenee Tower, 25th Floor, 63 Witthayu Rd, Khwaeng Lumpini, Khet Pathum Wan, Bangkok 10330, Thailand
	TU Cybersecurity Team, PNNL	2 Na Phra That Alley, Phra Borom Maha Ratchawang, Phra Nakhon, Bangkok 10200, Thailand
Tuesday, 17 Jan	MEA, PNNL, TU	1192 Rama IV Rd, Khlong Toei, Bangkok 10110, Thailand
	BMA, PNNL, TU	173 Dinso Rd, Khwaeng Sao Chingcha, Khet Phra Nakhon, Krung Thep Maha Nakhon 10200, Thailand
	EPPO, PNNL, TU	121/1-2 Phetchaburi Rd, Thung Phaya Thai, Ratchathewi, Bangkok 10400
Wednesday, 18 Jan	EGAT, PNNL, TU	53 หมู่ที่ 2 Charan Sanit Wong Rd, Bang Kruai, Bang Kruai District, Nonthaburi 11130, Thailand
	TU modeling team, PNNL	3J94+HX4, Phahonyothin Rd, Khlong Nueng, Khlong Luang District, Pathum Thani 12120, Thailand

January Trip Logistics



- Official Letters to MEA, BMA, EGAT, EPPO
 - PNNL to provide list of discussion topics for each meeting
 - What information needs to be included in the meeting request letters?
 - Who should send the letters?

Modeling Discussion: Electricity Generation



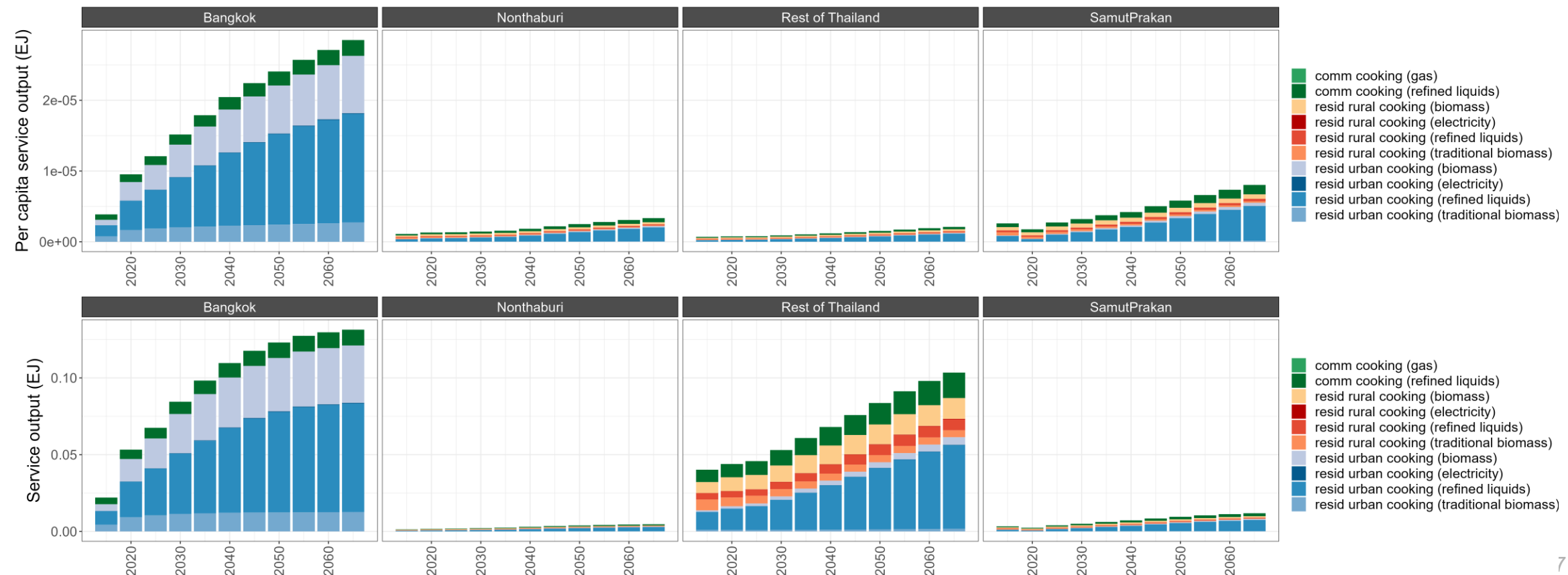
- Ongoing Modeling Discussion: <https://docs.google.com/document/d/1tRT5CmB3WHPE2lOrd-I0v8G4pMTA7P-D5MAOzakAQBk/edit#heading=h.18asv5sx06du>
- Next steps for PNNL
 - Separate domestic and imported hydropower in results
 - Limit geothermal electricity generation
 - Remove nuclear electricity generation
 - Add biomass share floors to policies
 - ✓ PDP2018 vs updated LTS
- Update to modeling approach: share of total electricity generation rather than absolute values

Modeling Discussion: Building Sector

- Next steps for PNNL
 - Address the anomaly of Bangkok's high service satiation parameter for urban cooking
 - Ensure that cooking technology shares reflect reality
 - Implement cooking electrification policy

Region	Service satiation (EJ/ floorspace)
Bangkok	0.97
Nonthaburi	0.11
Samut Prakan	0.29
Rest of Thailand	0.07

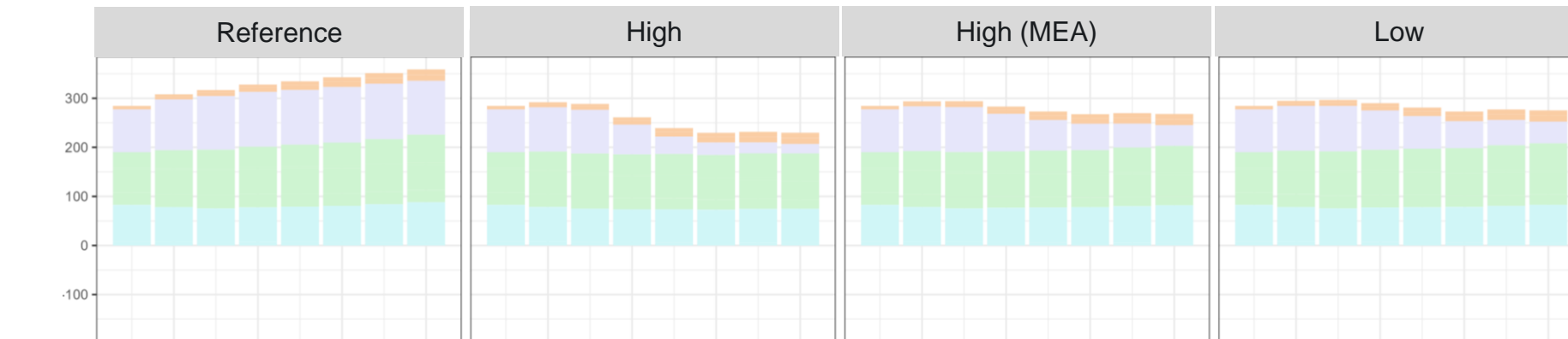
Reference
scenario
cooking
service output



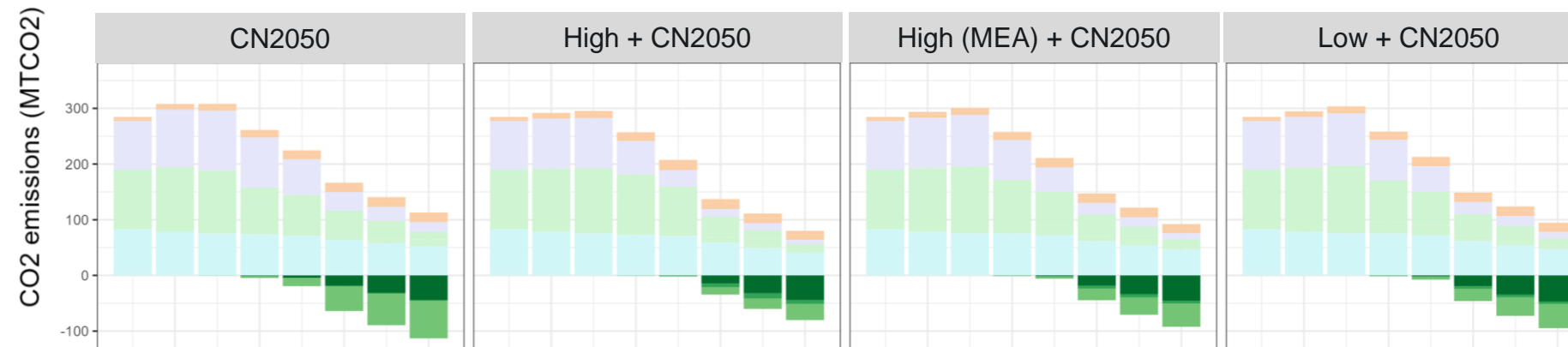
Modeling Discussion: Initial Emissions Results

(All of Thailand)

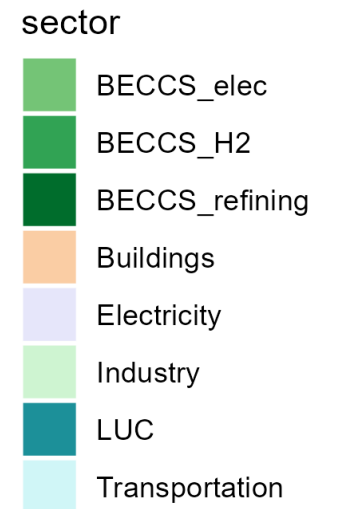
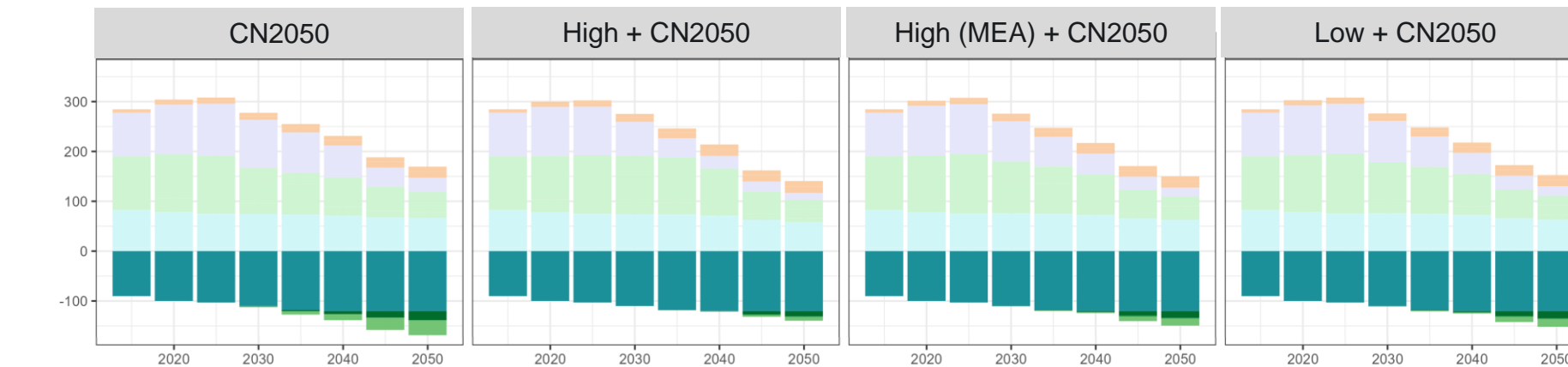
Policies



Policies +
carbon neutral
2050 (without
LUC)



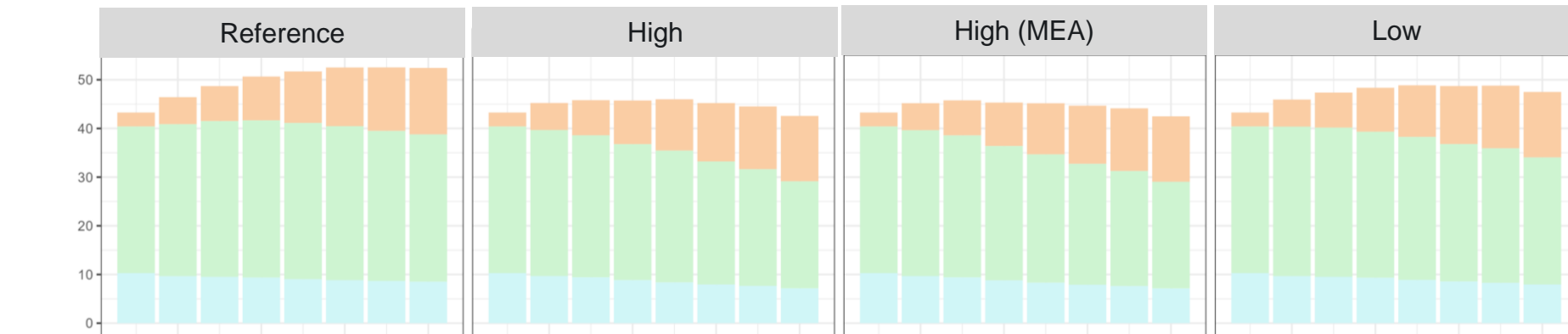
Policies +
carbon neutral
2050 (with
LUC)



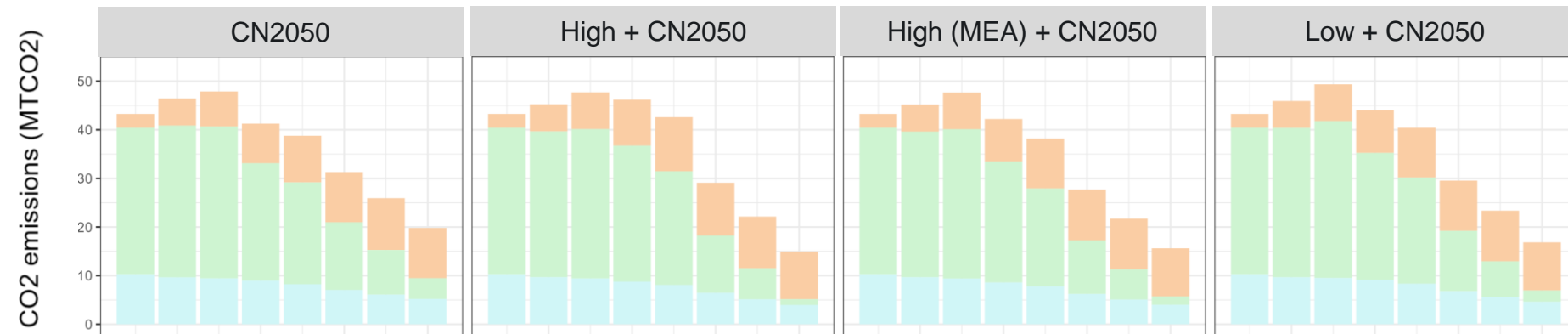
Modeling Discussion: Initial Emissions Results

(MEA area)

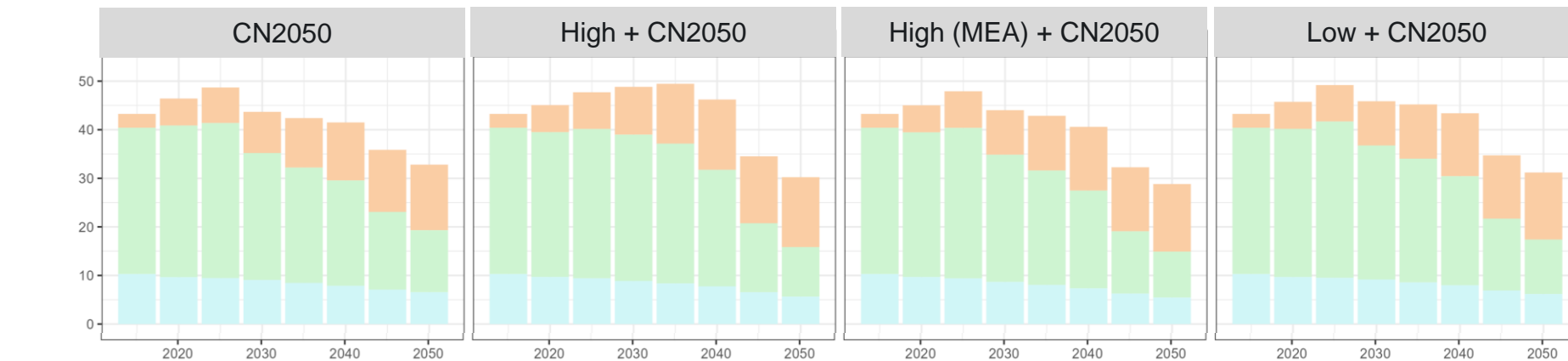
Policies



Policies +
carbon neutral
2050 (without
LUC)



Policies +
carbon neutral
2050 (with
LUC)



sector

- Buildings
- Industry
- Transportation

Modeling Discussion: Key Questions and Next Steps



- Are we capturing the extent of possible emissions reductions in the MEA area with the current policies?
 - Next step: add a cooking electrification policy
 - Are any additional policies needed?
- Should we consider a CO₂ emissions constraint for the MEA area itself?
- Should we move forward with the emissions constraint version that includes the assumed land sink?

Thank you

