

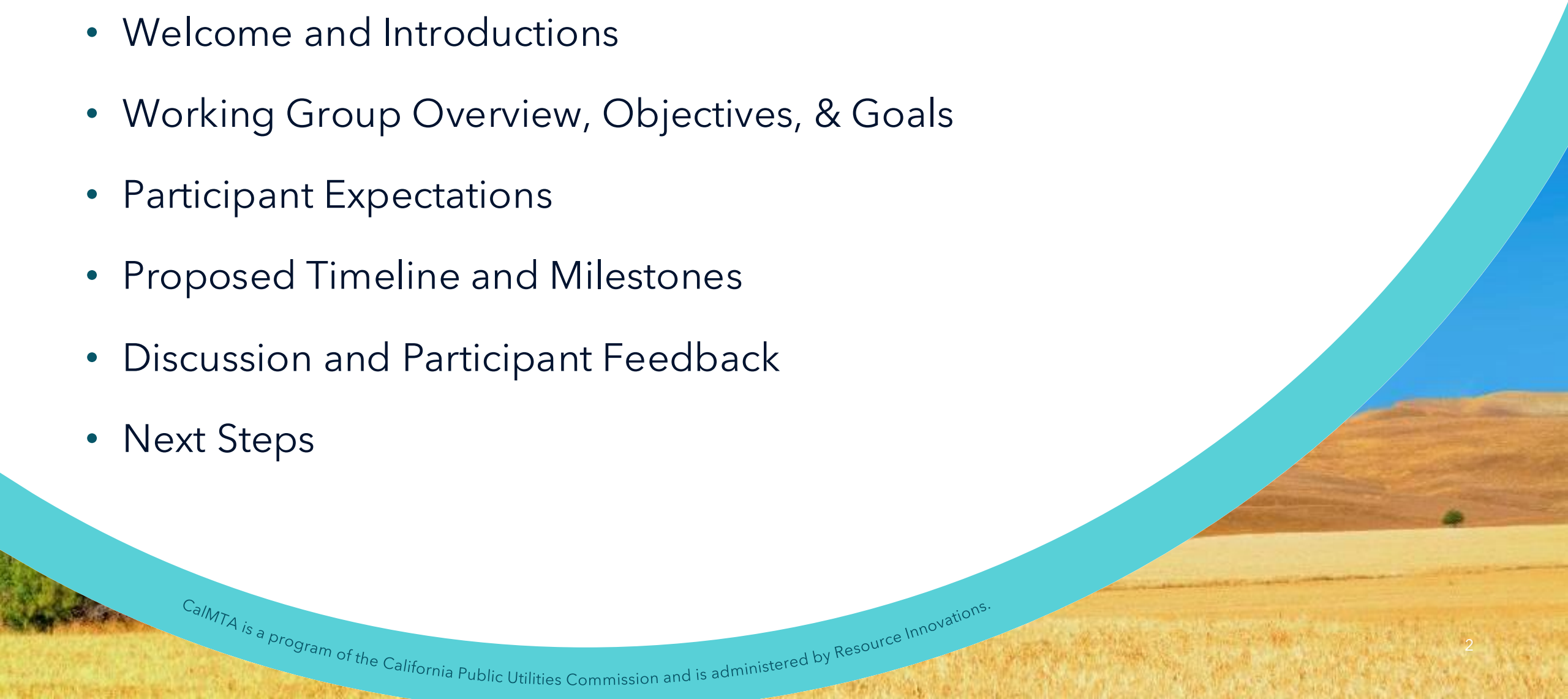
RTU Controls Technical Working Group

Kickoff Meeting
August 21, 2026

CalMTA is a program of the California Public Utilities Commission and is administered by Resource Innovations.

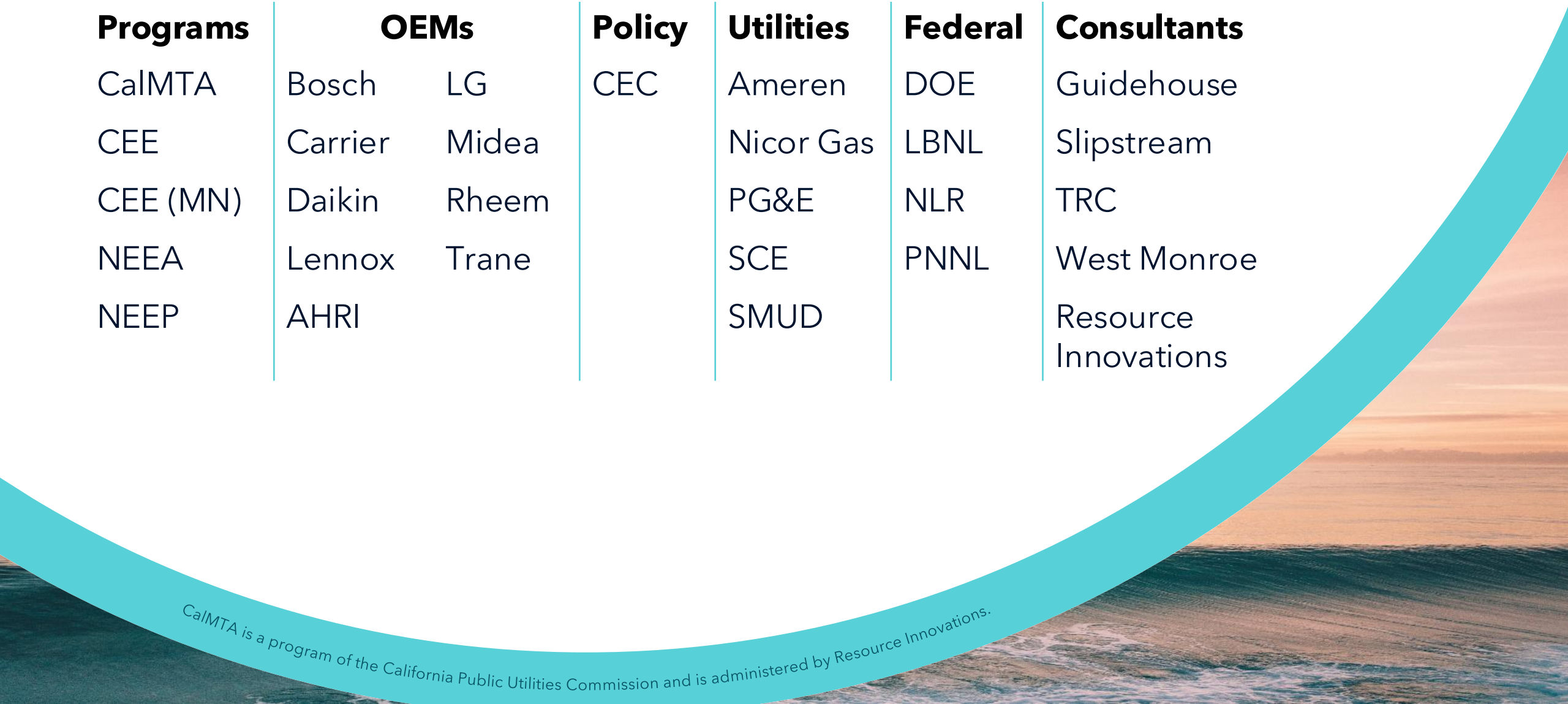
Agenda

- Welcome and Introductions
- Working Group Overview, Objectives, & Goals
- Participant Expectations
- Proposed Timeline and Milestones
- Discussion and Participant Feedback
- Next Steps



List of invited organizations

Programs	OEMs		Policy	Utilities	Federal	Consultants
CalMTA	Bosch	LG	CEC	Ameren	DOE	Guidehouse
CEE	Carrier	Midea		Nicor Gas	LBNL	Slipstream
CEE (MN)	Daikin	Rheem		PG&E	NLR	TRC
NEEA	Lennox	Trane		SCE	PNNL	West Monroe
NEEP	AHRI			SMUD		Resource Innovations



Introductions



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Problem, Goals, and Objective

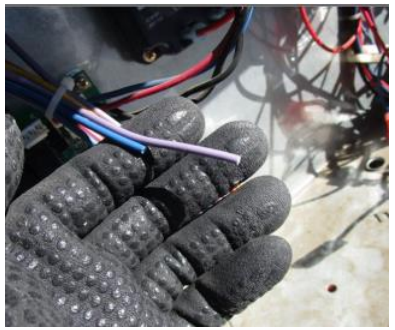


Improper economizer setup wastes 11%-34% cooling energy
- PG&E 2021

Honeywell Jade economizer

Prevalence of improper setup:

- "Economizers **failed to perform as intended in over 60%** of installations"- Jacobs 2004
- "**27% of economizers were not functioning-** even on newly-installed systems"- CPUC 2017
- **"Only 3 of 26 units were setup properly**." - PG&E 2021



91% of RTUs in the field are dealing with 1or more significant faults

Cowen, 2004



Poor maintenance wastes 10-30%

– Katipamula, 2004

What if…

Day 1: We could make sure units were installed properly

Ongoing: When things went wrong, someone knew about it

Ongoing: Technicians could call in from off-site to troubleshoot and order parts before they rolled a truck

Ongoing: Utilities could connect directly to RTUs to reduce demand

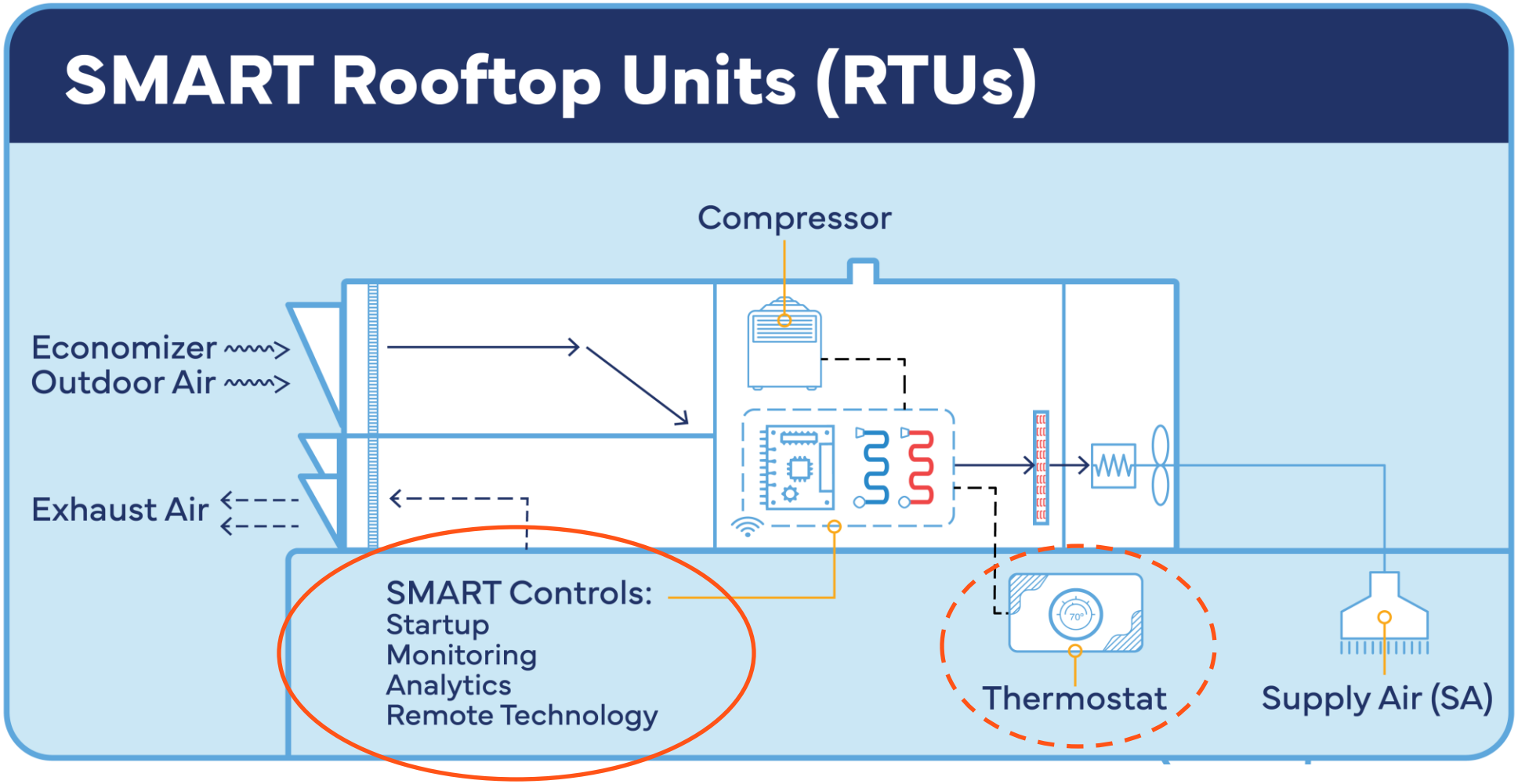


"SMART" RTUs



1. Application-based startup
2. Automated fault detection and diagnostics (beyond economizers required in ASHRAE 90.1)
3. Remote connection
4. Demand response

SMART Rooftop Units (RTUs)



Working group focus

Related component

Overall Goals

The goals are to:

- Improve startup quality
- Increase insights into how the RTU is performing
- Support preventative maintenance
- Enable easier demand response

Added benefits

- Increase equipment lifetime
- Increased customer satisfaction



Specific Objectives



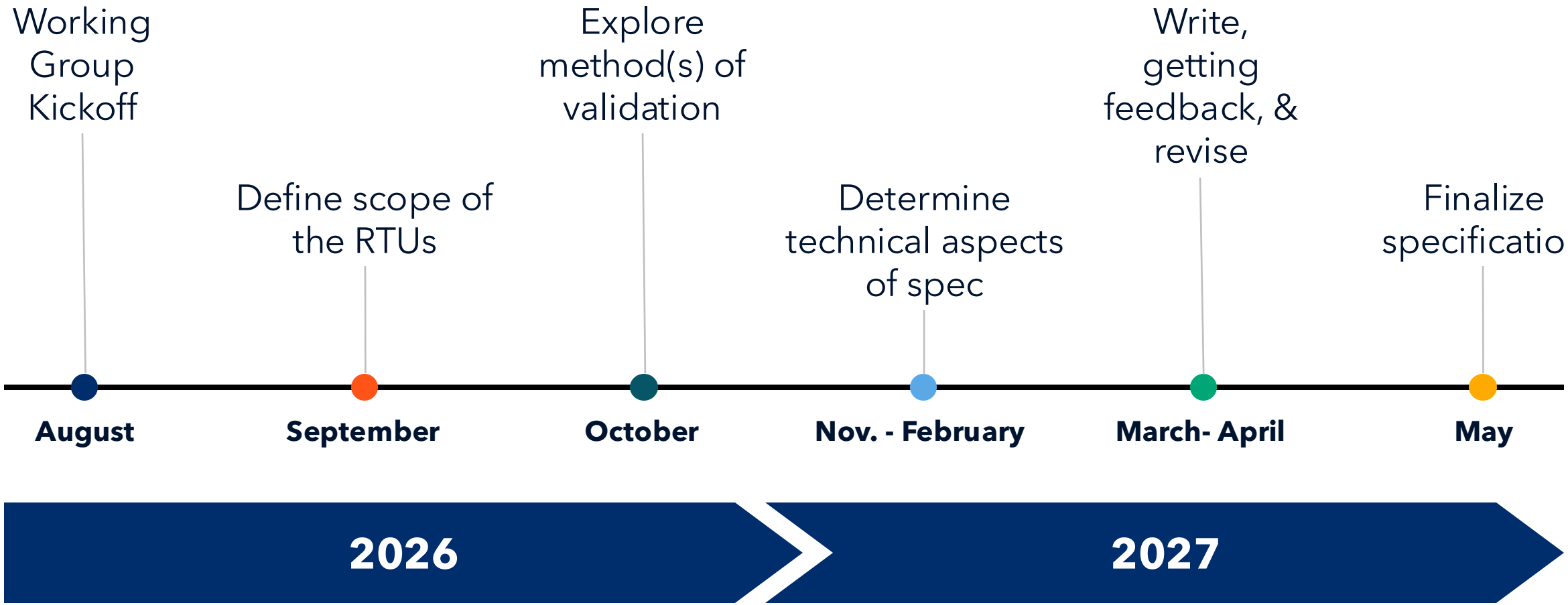
A specification that establishes requirements for "SMART" RTUs

- Help utilities, contractors, distributors, and other interested parties identify SMART RTUs
- For use in voluntary utility programs

Participant Expectations

- Bring your perspective.
- Be candid and constructive.
- Share real-world insights.
- Think beyond today's products.
- Help us find the right balance.
- Work to find consensus, not perfection.
- Anticipate a meeting cadence ~ 3 weeks depending on logistics.

Steps to a specification

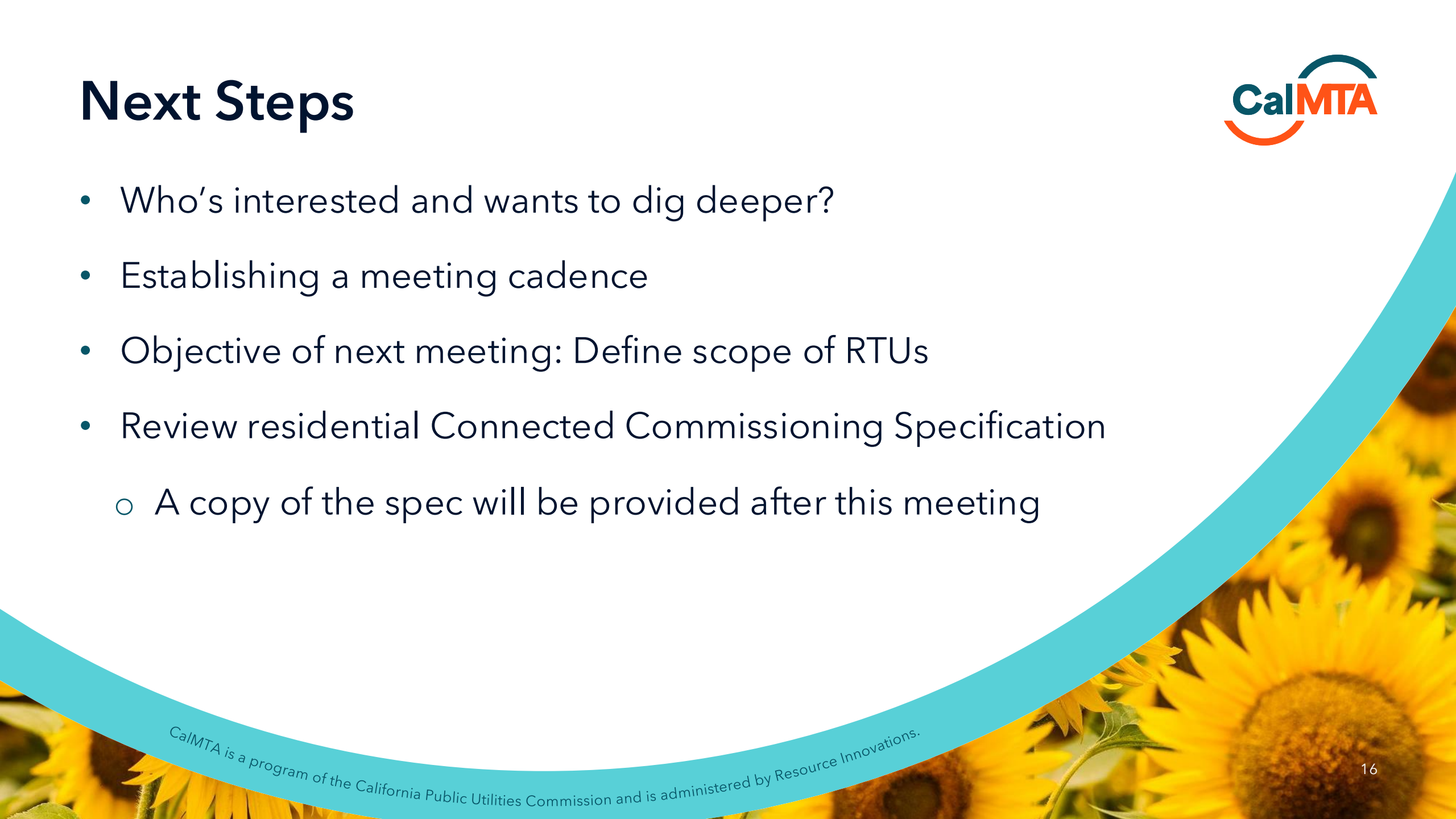


Questions?

Comments?

Next Steps

- Who's interested and wants to dig deeper?
- Establishing a meeting cadence
- Objective of next meeting: Define scope of RTUs
- Review residential Connected Commissioning Specification
  - A copy of the spec will be provided after this meeting



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