CALIFORNIA
AIR RESOURCES BOARD

Red Sticker Proposal Workshop

EL MONTE, CALIFORNIA

OCTOBER 23, 2018

Meeting Outline

- Background and Key Elements from Previous Workshop
- Feedback Received
- Emissions Inventory Update
- CARB Goals for Updated Proposal
- Updated Proposal
- Additional CARB Ongoing Commitments
- Next Steps

Background

- 2013 evaporative rule
  - Board directed staff to conduct technical assessment of Red Sticker category
- Red Sticker assessment
  - Emissions testing
  - Owner survey
  - Population evaluation
- Stakeholder outreach and proposal development
- Informational Board Hearing
- Red Sticker proposal workshop

Key Elements from Previous Workshop

- End Red Sticker program in 2022
- Realize expected benefits of 2013 evaporative rule
- Transition exhaust standards for Red Sticker OHMCs to Green Sticker control
- Lift Red Sticker program riding restrictions
- Minimize impact to model availability
- Provisions for youth models and zero emissions vehicles

Feedback Received – Manufacturers/Dealers

- Address manufacturers challenges in meeting evaporative standards
- Model availability still a major concern for stakeholders
- Consider a proposal that incorporates ATVs, rather than just motorcycles
- Consider a multi-tiered approach to certification that includes alternative pathways
- Consider youth models be given exemption from exhaust standards
- Develop a method to direct ZEV incentives to manufacturers

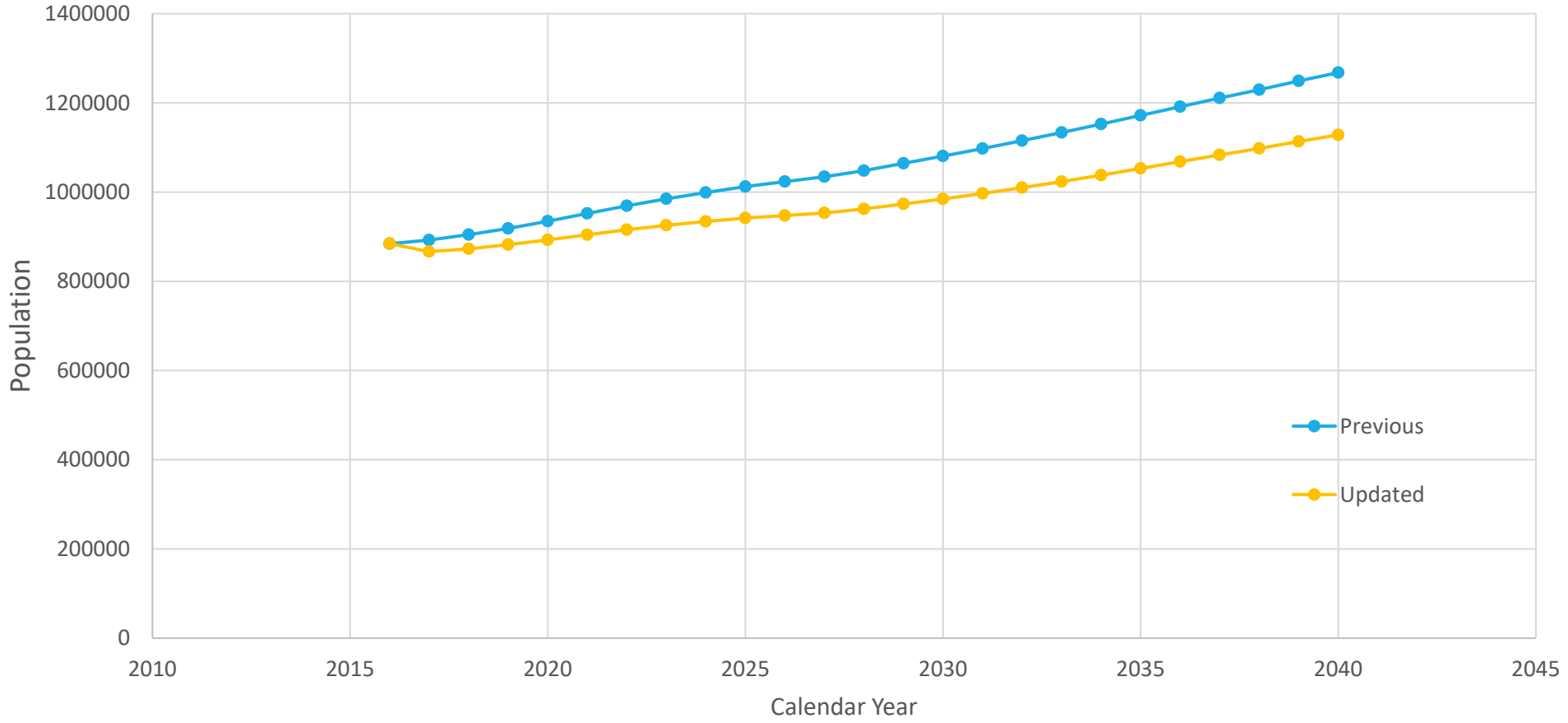
CARB Activities Since Last Workshop

- Presented proposal to OHV State Parks Commission
- CARB conducted additional emissions testing to assess benefits of evaporative controls proposed by industry
- Updated emissions inventory
- Revised proposal to reduce impacts on model availability
- Met with manufacturers to discuss updated proposal

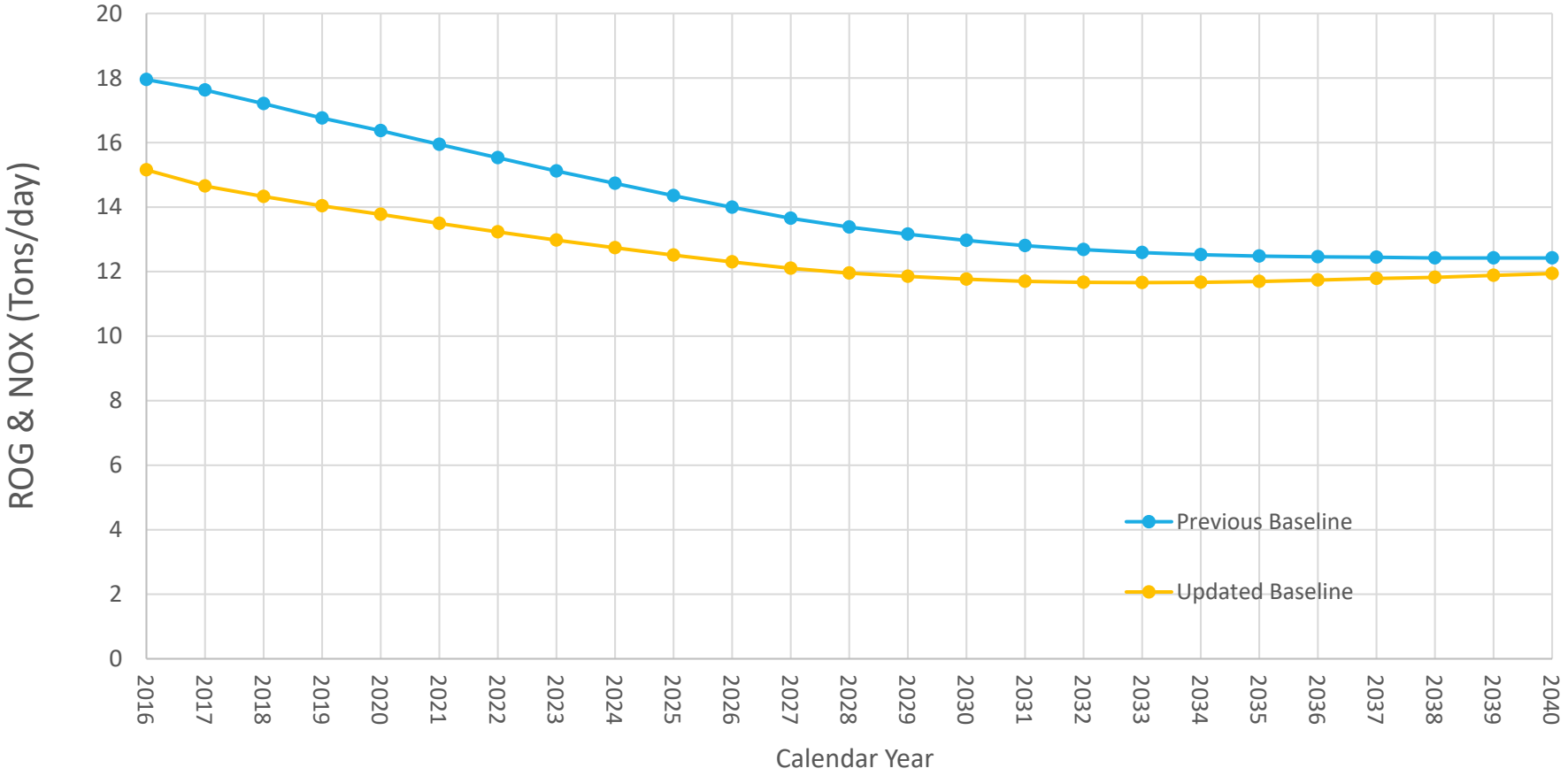
Emissions Inventory Update

- CARB evaluated comments and worked with industry to conduct additional emissions testing
- More accurate assessment of evaporative emissions during long term storage
- Refined the emissions inventory based on test data
- Updated inventory model to include latest 2017 DMV data
- Includes latest UCLA forecast of future economic activity

Updated Annual Sales Forecast



Updated Baseline



CARB's Updated Proposal

- Address feedback provided during last workshop
- Maintain model availability while reducing emissions
- Integrate certification alternatives and pathways where possible
- Address implementation and research costs for OHRV market
- Provide pathway for Green Sticker vehicles to move back into the market place as soon as possible

Updated Proposal – Unchanged Elements

- Sales of new Red Sticker vehicles ends in MY2022
- Lift Red Sticker riding restrictions in 2025
  - Existing Red Sticker vehicles will no longer be subject to seasonal riding restrictions
- No emission standards or certification requirements for competition vehicles
- Establish transitional emission standards for exhaust
- Provisions for youth models and zero emission vehicles

Updated Proposal – Evaporative Tiers

- Incorporates additional evaporative emission tiers for early implementation years and moves to more stringent standards in the future
  - Low permeation tier – U.S. EPA low permeation hoses and tank standards
  - Low permeation tier with diurnal control
  - EFI or automatic fuel shutoff for carbureted systems
  - Allows transfer of on-road certified evaporative fuel systems as alternative to current evaporative standard (TP-933)
- Tier system is also available for youth and ATV models

Proposed Evaporative Tiers - OHMC

Tier	Low Perm (EPA) Hose: 15 g/m2/day @ 23C Tank: 1.5 g/m2/day @ 28C	Fuel Injection or Automatic Fuel Shut-Off	Diurnal Control Canister: 1gwc/liter PRV: 2 psi or equivalent	TP933 or On-Road Certified System
I	✓	✓	✓	✓
II	✓	✓	✓	
III	✓	✓		
Youth (I)	✓	✓	✓	
Youth (II)	✓	✓		
Youth (III)	✓			

Proposed Evaporative Tiers – ATV

Tier	Low Perm (EPA) Hose: 15 g/m2/day @ 23C Tank: 1.5 g/m2/day @ 28C	Fuel Injection or Automatic Fuel Shut-Off	Diurnal Control Canister: 1gwc/liter PRV: 2 psi or equivalent	TP933
I	✓	✓	✓	✓
II	✓	✓	✓	
Youth (I)	✓	✓	✓	
Youth (II)	✓	✓		
Youth (III)	✓			

Proposed Evaporative Tiers – UTV

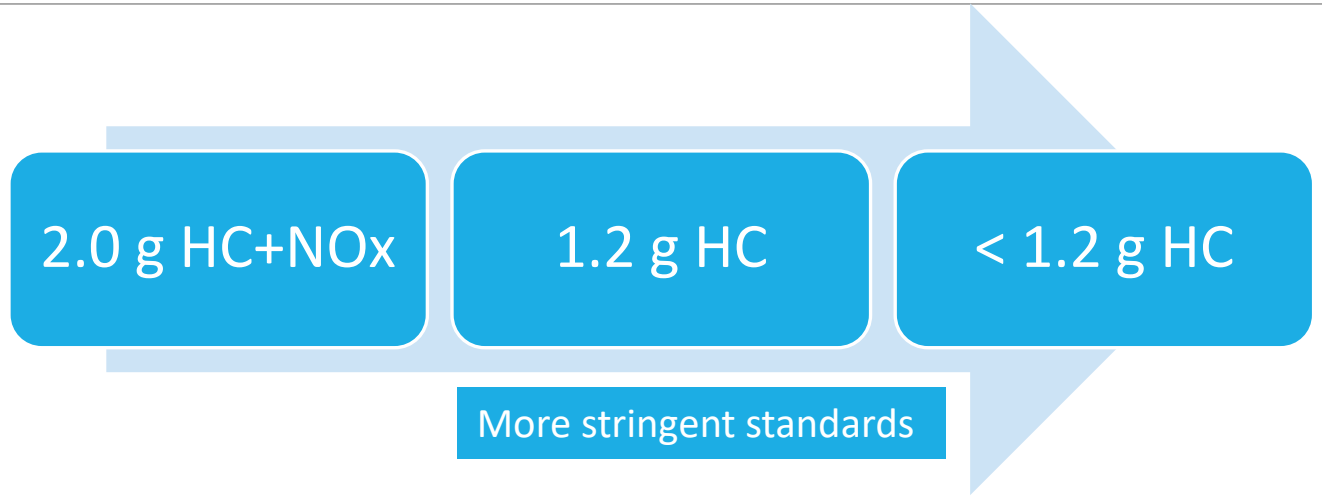
- No change from current evaporative requirements
- UTVs already on course for compliance with TP-933
- Planning in place since 2013
- UTVs not eligible for Red Sticker program

Implementation Schedule (Evaporative)

Type	Tier	2022	2023	2024	2025+
OHMC	I	0%	0%	20%	50%
	II	20%	50%	30%	50%
	III	80%	50%	50%	0%
ATV	I	80%	80%	80%	80%
	II	20%	20%	20%	20%
Youth	I	0%	0%	0%	100%
	II	0%	100%	100%	0%
	III	100%	0%	0%	0%

- For models 2020-2021, ATV and OHMC can certify using the U.S. EPA permeation standards
- Manufacturers can continue following their current 2018-2021 evap compliance plans

Proposed Exhaust Strategy – All OHRV



- Provide transitional standards that become more stringent over time
- Stringent exhaust standards help offset emissions increase from relaxed evaporative emissions
- Zero emissions vehicles included in fleet averaging

Implementation Schedule (Exhaust)

Type	2022	2023	2024	2025	2026	2027	2028+
OHMC	2.0 g HC	2.0 g HC	1.5 g HC	1. 5 g HC	1.5 g HC	1.2g HC	1.2 g HC
ATV/UTV	1.1 g HC	1.1 g HC	1.1 g HC	1.0 g HC	1.0 g HC	0.9 g HC	0.9 g HC

- Fleet averaging over all models for a given type
- Standards become more stringent over time
- No required categories, must meet total average
- Engine-based certification is still allowed per existing regulations

Updated Proposal - Youth Models and ZEV

- OHMC youth model definition
  - Not to exceed more than 90 cc
  - Seat height – not to exceed 29.5 in

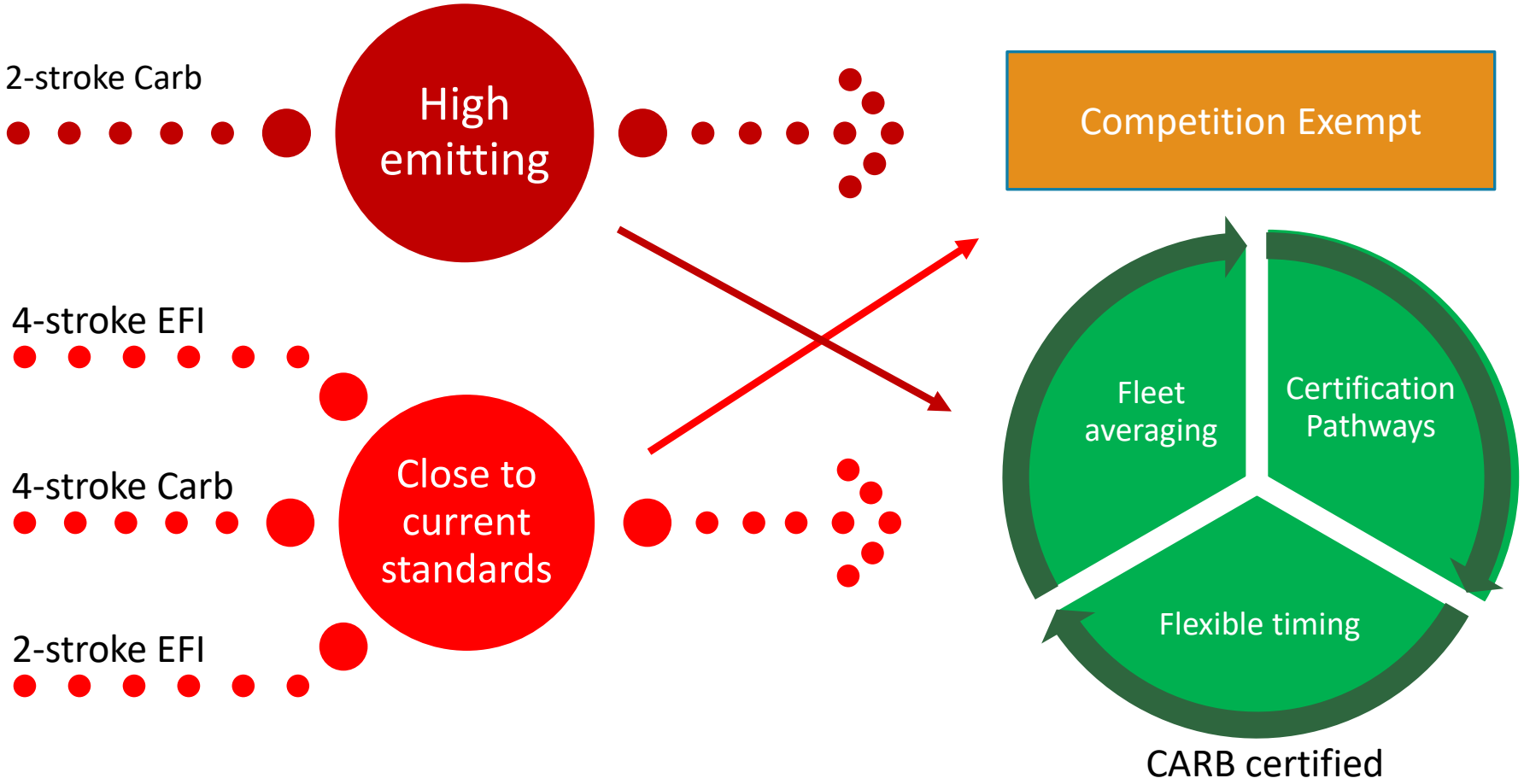
- ATV youth model definition
  - Not to exceed more than 250 cc

- Zero Emission Definition
  - Min 750W peak rated power
  - Min 1.5 hr run time at 100% throttle (rated battery capacity/rated motor output)

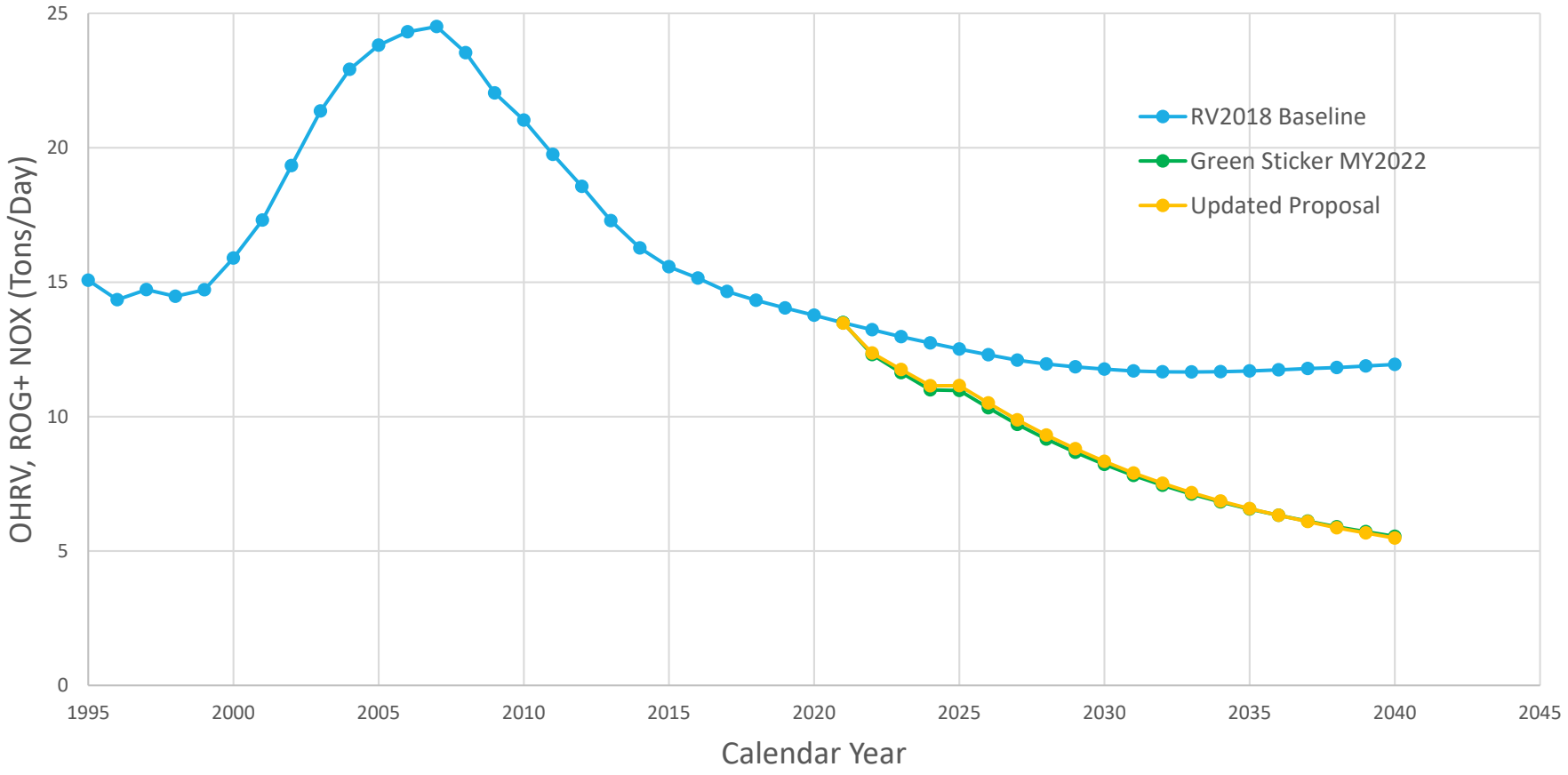
Certification Pathways

- In addition to TP-933 testing, manufacturers may certify their evaporative systems through the on-road certification test procedure
- Design-based certification may also be utilized
- U.S. EPA component certification will be allowed for early implementation years
- Harmonization of currently approved EOs from other categories
- Manufacturers can certify to one fleet averaging exhaust standard

Model Availability



Emission Benefits



Cost Estimates

- Estimated retail cost will be averaged over all the costs submitted by manufacturers with added markup
  - Responses received from cost survey
  - Assuming 20% mark up for manufacturers and dealers
- Estimated costs will be evaluated for low and high volume sales
- Will include additional cost estimates if received by November 1

Next Steps

- Proposal may be refined based on stakeholder input
- CARB prepares proposed regulation
- February 21, 2019 - Board Hearing to consider amendments

<u>Post-Rulemaking Activities</u>

- Outreach on limited use of competition vehicles

CARB Contact Information

Regulations, Test Procedures, and Component Certification

- Scott Monday – (916) 445-9319, scott.monday@arb.ca.gov
- Scott Bacon – (916) 322-8949, scott.bacon@arb.ca.gov

Emissions Inventory

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- David Chou – (626) 450-6136, david.chou@arb.ca.gov

Questions?