



## Climate Action Plan Community Advisory Task Force Meeting #7

1-5 p.m., Thursday, November 18, 2021: Zoom

### Meeting Notes: DRAFT

*[Presentations and video available at [www.clackamas.us/sustainability/climateaction](http://www.clackamas.us/sustainability/climateaction)]*

#### Attendance (check marks indicate those in attendance)

##### Task Force Members

- ✓ Ray Atkinson
- ✓ Bill Avison
- ✓ Sally DeSipio
- ✓ David Bugni
- ✓ Nina Carlson
- ✓ Katy Dunsmuir
- ✓ Laura Edmonds
- ✓ Zach Henkin
- ✓ Julie Hernandez
- ✓ Dan Houf
- ✓ Lisa Kilders

- ✓ Julia Person
- ✓ Richa Poudyal
- ✓ Valerie Pratt
- ✓ Adam Rack
- ✓ Jeff Rubin
- ✓ Jairaj Singh
- ✓ William Street
- ✓ Kim Swan
- ✓ Ed Wales
- ✓ Cassie Wilson

##### County Staff

- ✓ Sarah Allison
- ✓ Abe Moland
- ✓ Eben Polk
- ✓ Sarah Present
- ✓ Garrett Teague
- ✓ Katie Wilson

##### Consultants

- ✓ Monica Cuneo, facilitator
- ✓ Chris Strashok

#### I. Welcome (Monica Cuneo)

Monica kicked off the meeting with the County's land acknowledgement, reviewed the plans for today's meeting, and identified some of the tensions in this work.

#### II. Public comment

There was no formal public comment.

#### III. Group Introductions

Sarah led the group through a round of introductions

#### IV. Carbon Neutrality

Eben described some of the key considerations around carbon neutrality as it applies to our climate action plan.

- Context on many ways of measuring progress in climate action, including concentration of greenhouse gases in the atmosphere.
- Carbon neutral means reducing the net contribution to climate change to zero.
- The boundaries used to define this are important. Actions that are deemed to be collectively carbon neutral at a local scale and in a given year may not be sufficient to meet global carbon neutral, but do move us in that direction.

- For the purposes of this project we are identifying BOTH emissions reductions and sequestration as important and necessary, including facilitating or advocating for actions that we may not be able to take 'credit' for.

CATF discussion:

- Has the Board of County Commissioners defined "Carbon Neutral" in the context of this Task Force. Why can't the existing carbon sequestration capacity count?
  - Existing carbon sequestration capacity is part of our baseline.
- Can the county sell carbon credits as a way of incentivizing climate action?
- Are offsets considered to only cover difficult emissions reductions, or as an integrated strategy?
  - No decision has been made.
- In the Ag/Forest working group's table we uploaded to Basecamp this morning, we have included ODF's best estimate for carbon storage and sequestration for the county.
- It seems to me that some "offsets" are opportunities for gaming the system.
- Relative magnitudes of emissions and sequestration capacity are not close.

## V. Low Carbon Scenario Overview

Chris began the overview of the Low Carbon Scenario with a review of the model used.

- Our scenarios start with the greenhouse gas inventory, which is projected out under existing policies for our "Business as Usual" scenario, and with proposed climate action outcomes for the "Low Carbon" scenario.
- Actions ambition are based on the extreme scale of need for the climate emergency. The specific strategies and tactics for accomplishing the modeled outcomes are not included in the model, but will be developed later.
- Actions interact in the model through a complex systems dynamics model, influenced by both the outcome of the action and the timing of the action.
- While many actions that are proposed are common to other communities, that is because all communities have similar emission sources (i.e. transportation and building energy). The actions are specific to Clackamas County with regard to the geography and mix of building types.
- Recent state legislation can be included in the low carbon scenario, but not the business as usual scenario.
- Chris walked through the inputs and outputs of the model in the calibration process to ground-truth the model.

CATF discussion:

- Will the model be updated periodically?
  - Only one round of modeling is included in the current scope. Future modeling (whether new data or updates over time) would need to be added as future work.
- How can data not included in the current model be incorporated into the plan?
  - Different options are being explored. The model does not restrict options for what can be included in the plan.

- When will other non-modeled actions be discussed by the CATF?
  - The next phase of CATF work will include discussions of non-modeled actions.

After the overview, the CATF provided initial feedback on 32 actions regarding level of ambition and timing using a Mentimeter link. The Mentimeter report is attached to these notes.

#### **VI. Strategy Prioritization**

Due to extended conversation about the Low Carbon Scenario actions, input into strategies for actions was shifted from in-meeting discussion to a survey that the project team will send out. Monica discussed the purpose of the survey with remaining members of the CATF.

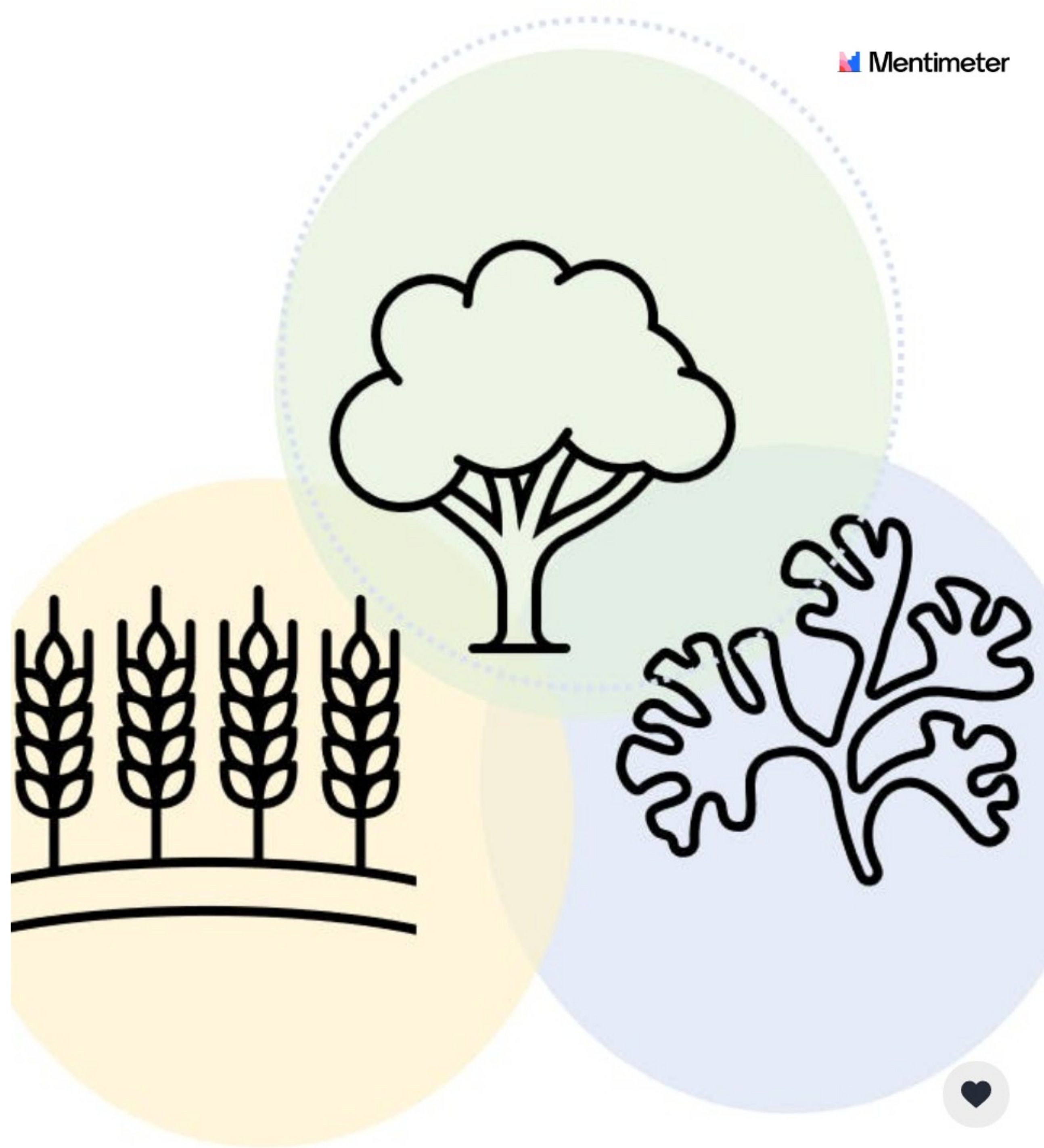
#### **VII. Next Steps**

The Forestry and Agriculture group will offer a presentation to support the understanding of task force members on forestry actions. This presentation will be recorded for those who cannot attend. The strategy survey will inform community engagement in early 2022.

# Proposed Low Carbon Actions

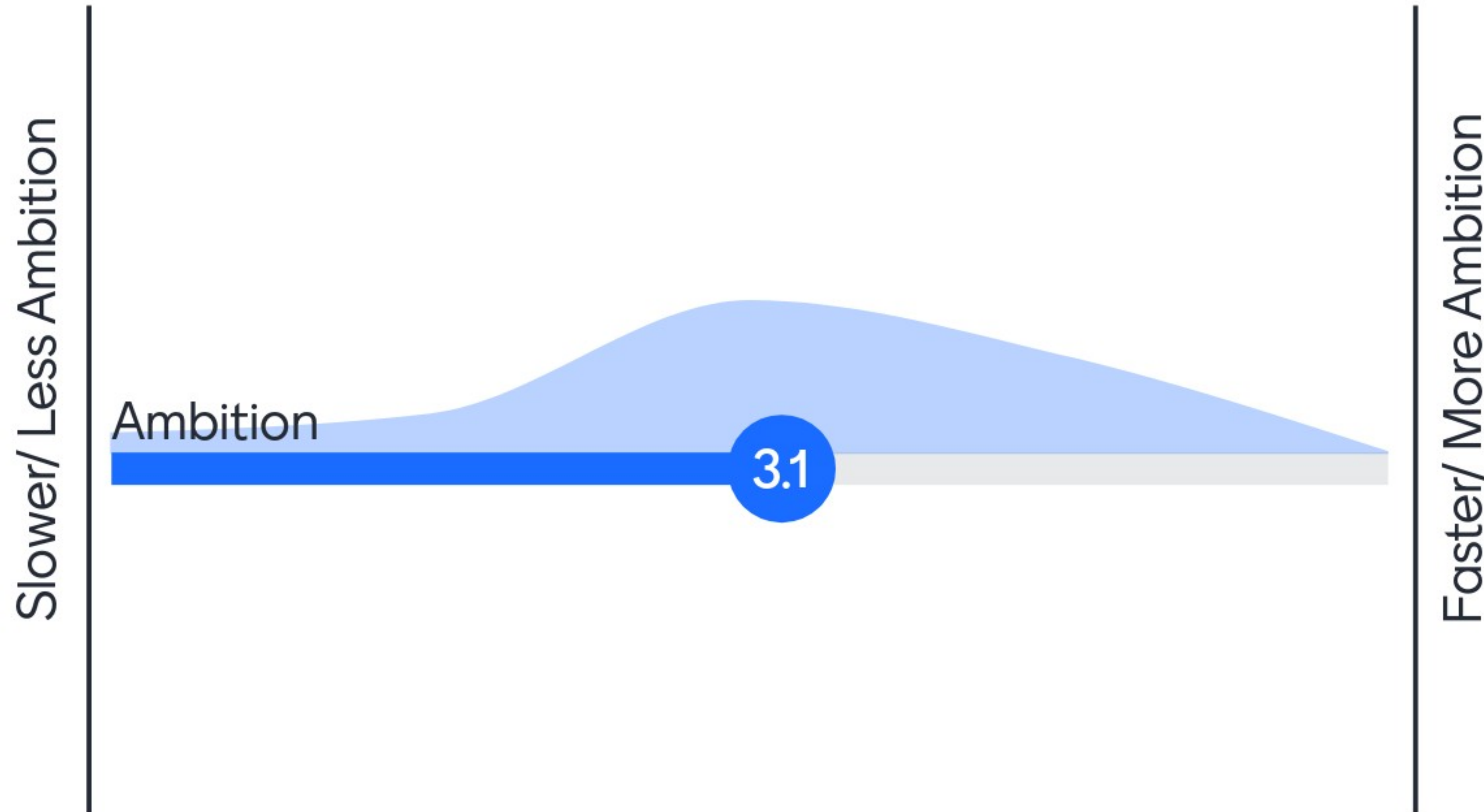
Clackamas County Climate Action Plan

# Natural Sequestration





**NEW: Starting now, assume an increase of 0.63 to 1.26 million metric tons/year**



**2025: Conserve 8,000 acres with high GHG sequestration benefits including riparian buffers, and the conservation of wetlands and organic soils.**

Derived from CATF FA5, and the federal Conservation Reserve Program (CRP) and Agricultural Conservation Easement Program (ACEP).



**Plant 418,000 new trees (one for every resident of Clackamas County) between 2022 and 2050; manage using regenerative agriculture methods.**

Trees should be selected to be resilient as climate change continues.

Derived from Target Outcome FA4.



# Increase sequestration in soils by promoting no till farming, responsible fertilizer use, etc.

Explore CARPE and COMET models to  
understand impacts of agriculture practices  
- side calculation

# If you could offer one suggestion to strengthen the actions in the NATURAL SEQUESTRATION category, what would you offer?

Forestry sequestration modeling needs to be in the plan.

Uncertain since we don't understand some of the suggestions we just saw. Not enough data to make this bold statement.

Increase acreage and # of trees

What monetary streams are available from state, federal dollars to incentivize people to do these actions and compensate them

1. Put County owned forest lands into a formal sequestration market program  
2. Act as broker to assist small forestry landowners enter the County lands sequestration program.

Continued research into modelling. Sounds like there is not enough info right now.

County/city collaboration

Improve agricultural practices. Do no harm.

Identification of possible lands under county control that can be used for sequestration.



# If you could offer one suggestion to strengthen the actions in the NATURAL SEQUESTRATION category, what would you offer?

Alter County procurement policy to incentivize vendors who engage in sequestration actions instead of just least cost

Maximize use of county lands

Increased ambition (quantity, timeline) on things like planting trees.

Improve agricultural practices. Do no harm

Consider private-sector needs/incentives

Plant trees in medians and along highways.

Improve soil health. Soil health is key.

Need to recognize this is a key part of the puzzle that will result in multiple benefits.

Focus on areas outside Metro's urban growth boundary



# If you could offer one suggestion to strengthen the actions in the NATURAL SEQUESTRATION category, what would you offer?

Public/Private Partnerships. Like city/county publicizing Friends of Trees work and campaigning for them.

# What remaining NATURAL SEQUESTRATION questions do you have?

We've seen little on Ag practices, would like to learn more there

How to get residential homeowners to plant more trees outside of forests in their own communities or property

How will changing climate affect how we sequester lands?

How much are we relying on this / what happens if natural disasters destroy progress?

Policies that promote urban vegetation

Utilizing the opportunity with new buildings that the county will see (67% household growth) to increase plantings and soil health

how to meaningfully incorporate this into climate conversations around decreasing emissions.

Have we considered likely increase in wildfire?

How are we addressing wildfire prevention



# What remaining NATURAL SEQUESTRATION questions do you have?

How best to sustainably recover burned land?

Will urban growth in the County and the transition/conversion of rural lands to urban and the lost of those tree and that lost sequestration potential be addressed?

Is the County open to requiring developers to provide more trees in their developments by eliminating minimum car parking requirements?

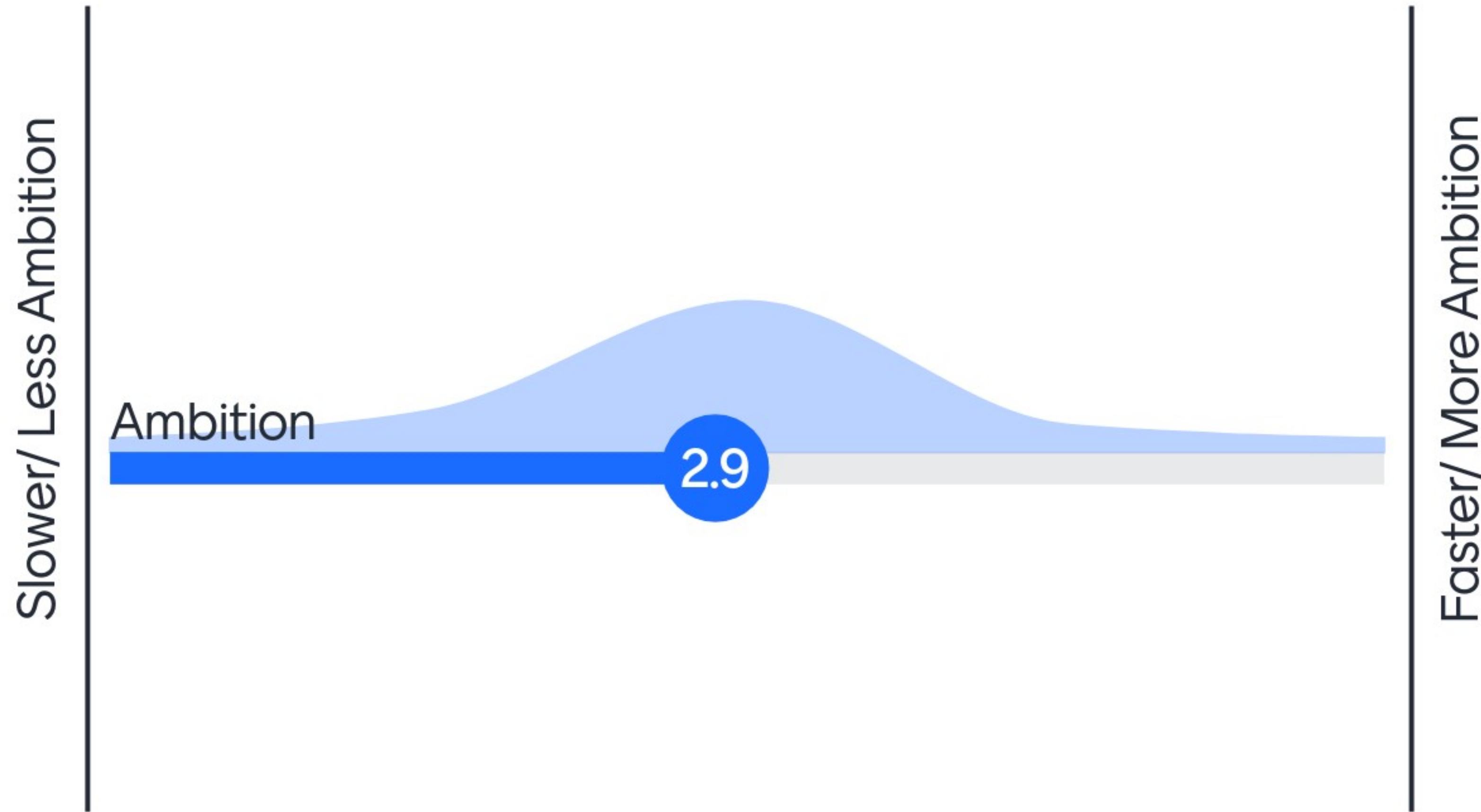
How does this impact other goals the County has, to meet other objectives that may negate the sequestration solutions recommended? ex: access to lands for affordable housing expansions as an example.



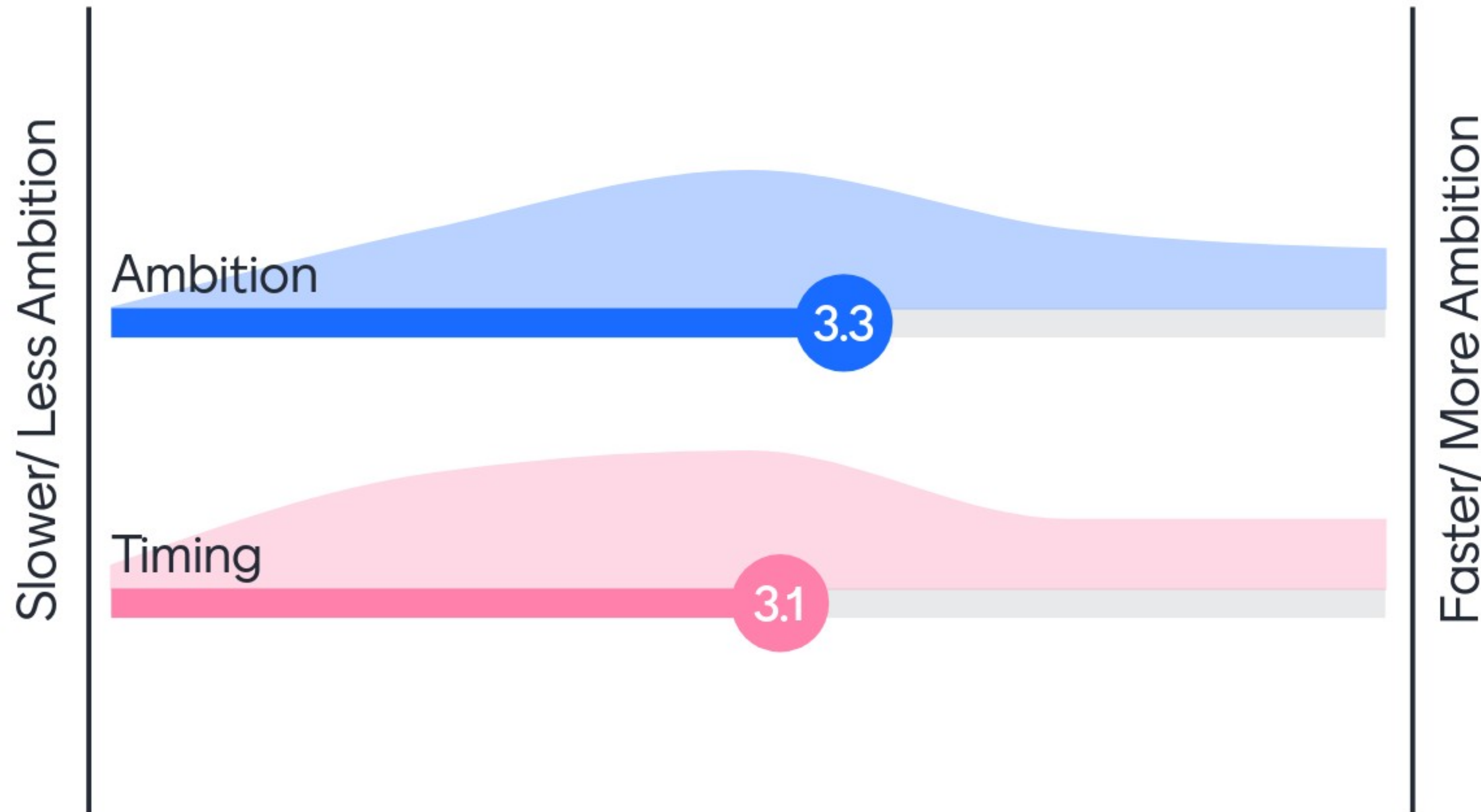
# Emissions Free Buildings



75% of new (non-replacement) housing will occur in key centers and corridors, identified by transportation zones.

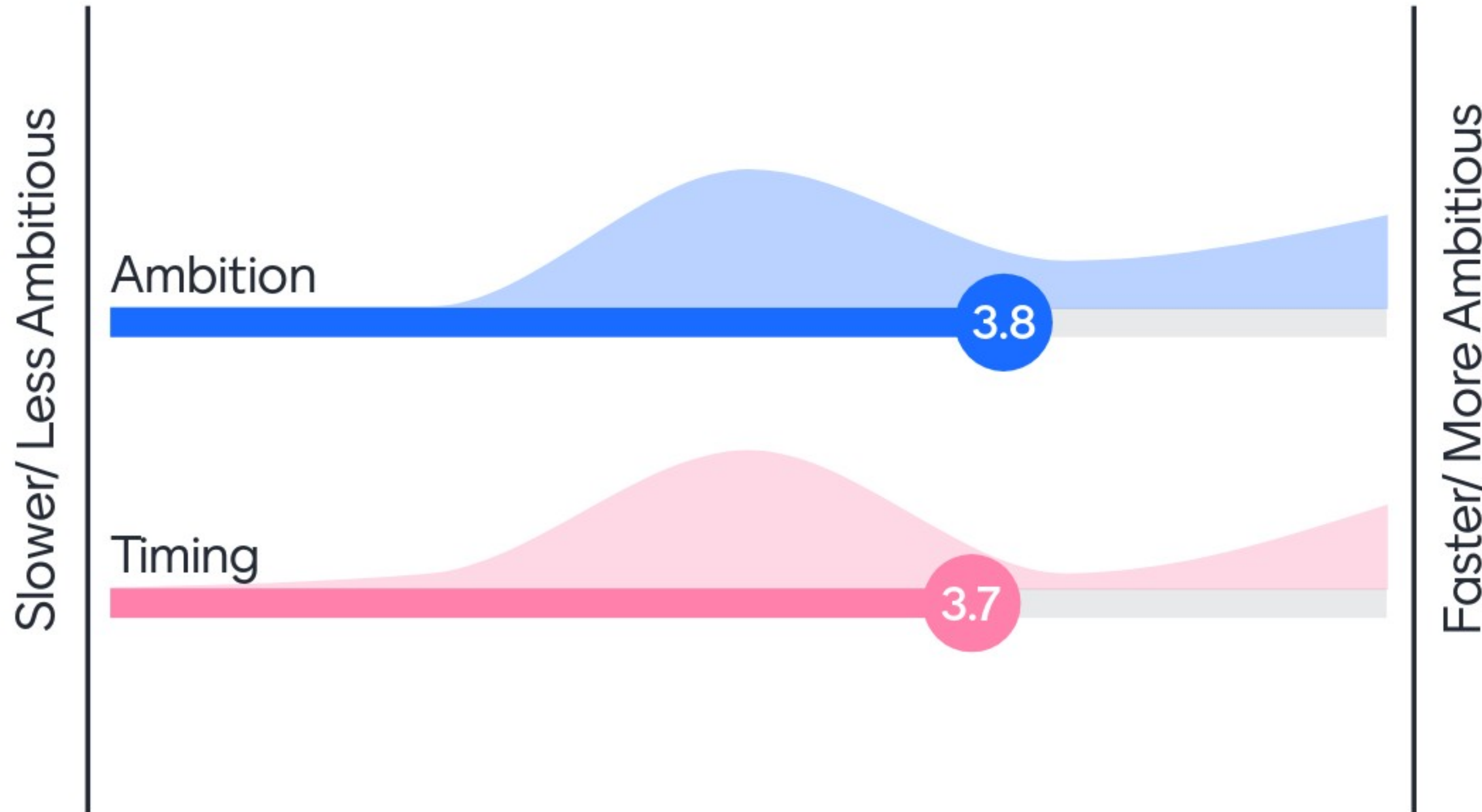


# By 2030, all new buildings use 80% less energy than in 2018.

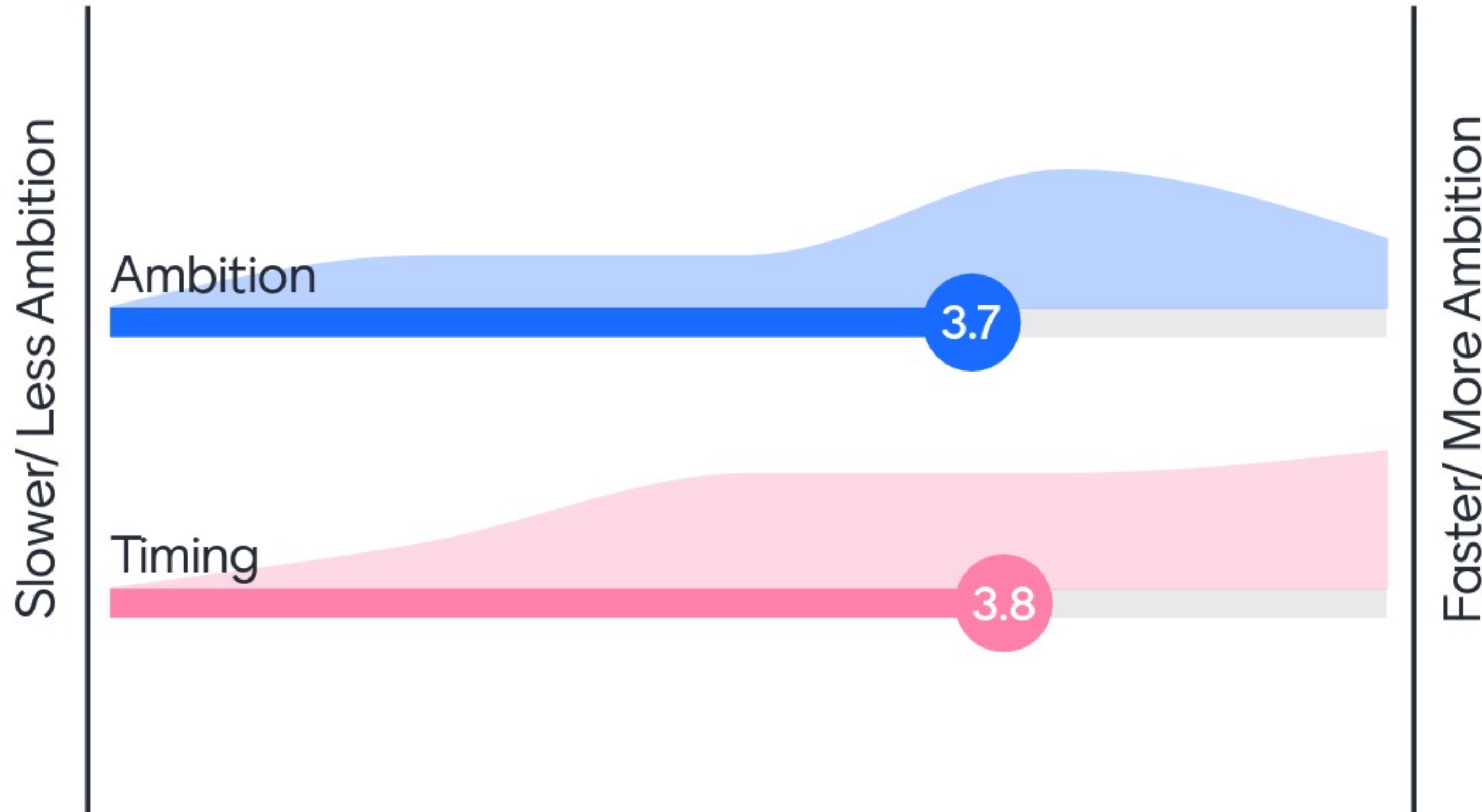




# New County buildings will at a minimum achieve LEED Gold Plus standard with all associated energy performance elements of that standard.

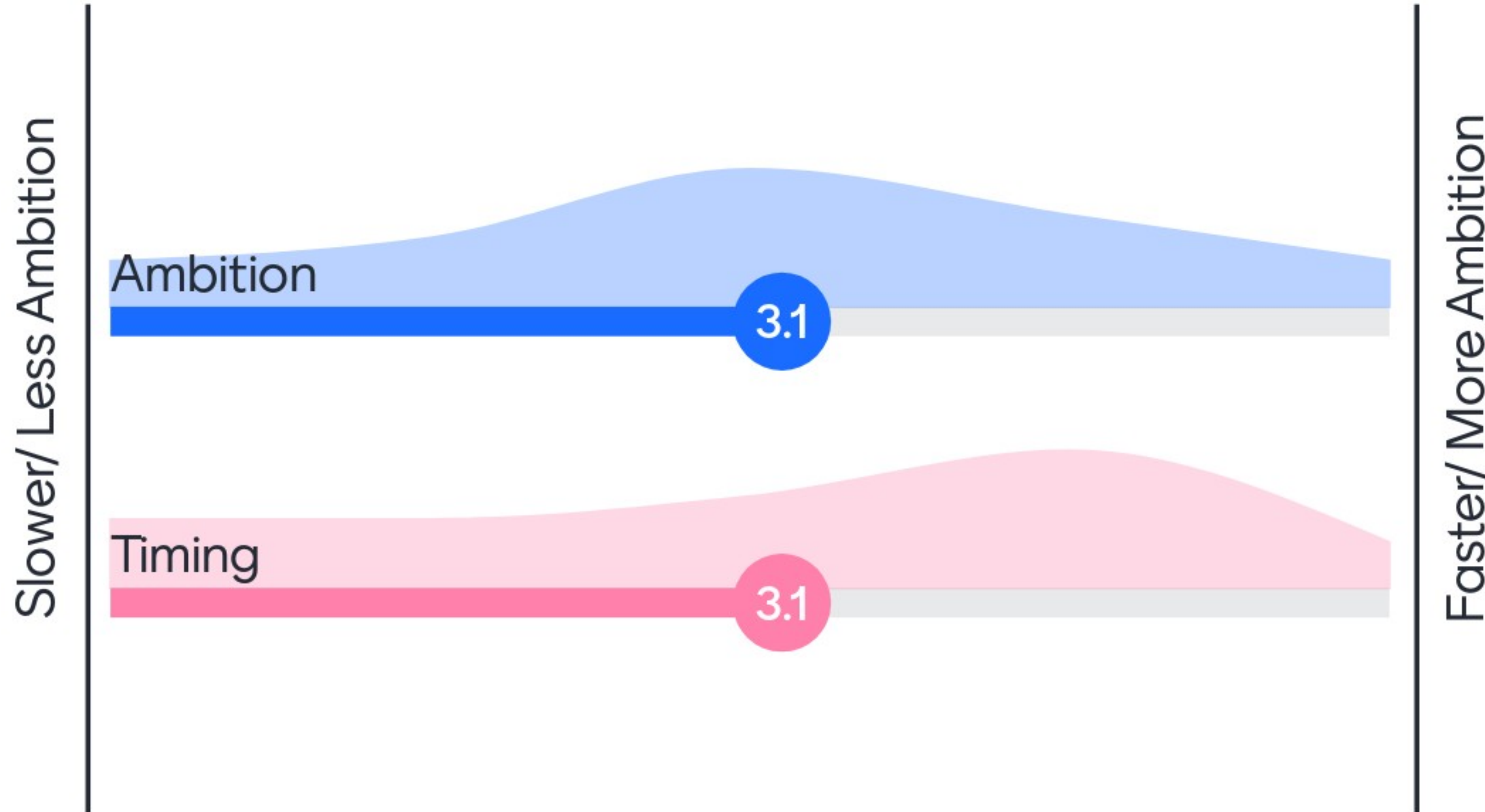


Achieve a 50% reduction in thermal energy used and a 10% reduction in non-thermal, electricity used in all existing buildings by 2040.



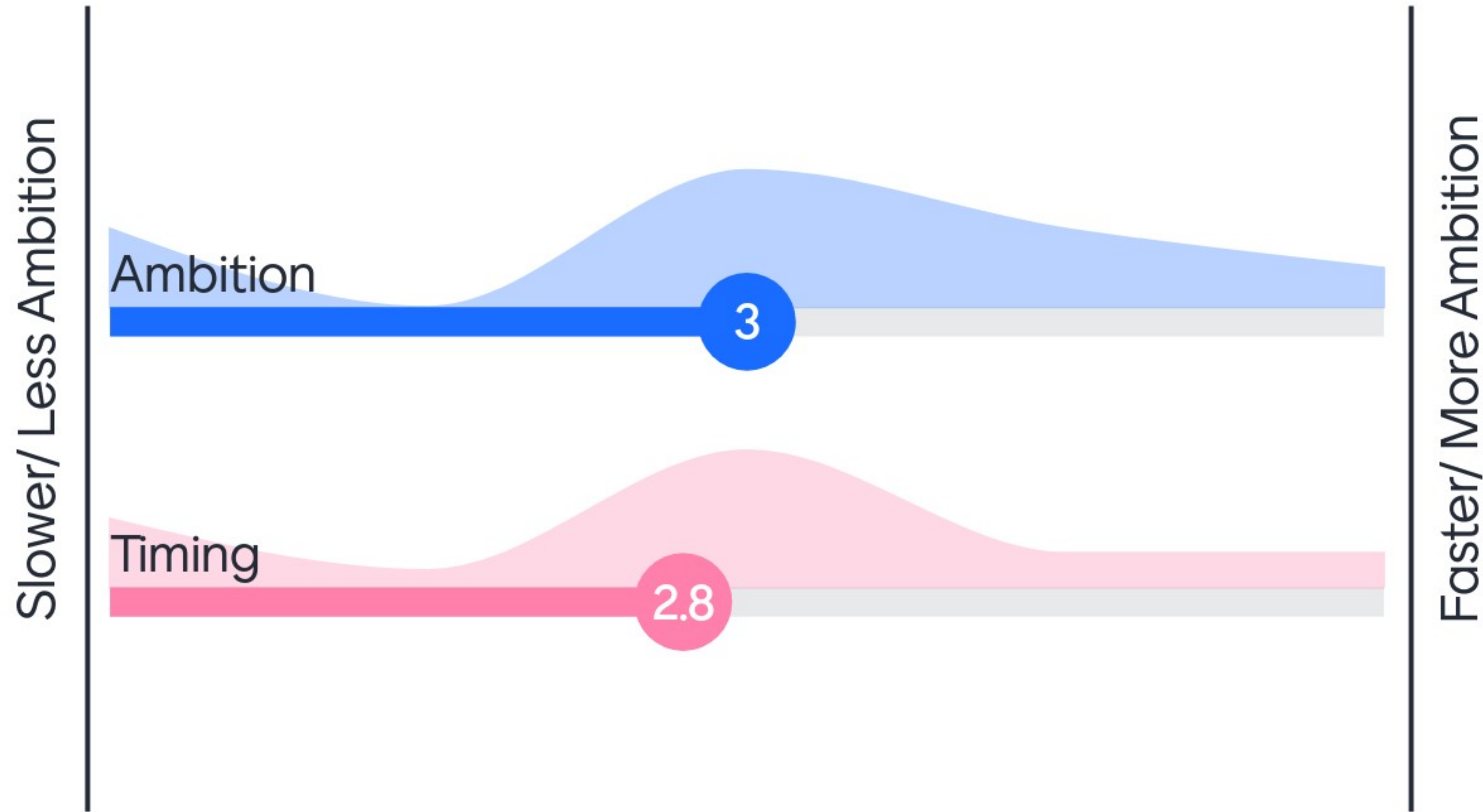


By 2040, 80% of space heating/cooling in existing buildings is from heat pumps - 50% air source, 50% ground source - supplemented by electricity.





# Domestic water heating is electric in: 80% of new homes by 2025, and 80% of existing buildings by 2040.



# If you could offer one suggestion to strengthen the actions in the BUILDINGS category, what would you offer?

solar?

passive heating/cooling

Connect building energy usage with affordable housing options

industrial/manufacturing building stock

Moving up timelines for new buildings

require massive warehouses and commercial buildings to have solar.

Solar water heating (boost/assist) is definately underrated.

More aggressive for County-owned buildings

Recognize the importance of improving grid reliability in order to increase electrification and make it more acceptable.



# If you could offer one suggestion to strengthen the actions in the BUILDINGS category, what would you offer?

offering other technology solutions (solar & natural gas) so we are offering robust options that balance affordable alternatives

Very proscriptive set of technologies offered, and not necessarily conducive in urban environments, often expensive and with dual systems for reliability

Retrofit assistance will be a huge component here. Perhaps finding sources/options to assist?

Have county serve as model with more aggressive goals/timelines.

Decouple "cost effectiveness" as it is currently defined by Energy Trust of Oregon.

Embedded emissions of building materials

Incentives will be key to making this happen. If the economics don't work with the regulations, entities will not build any new buildings in Clackamas County and choose to build elsewhere

Accelerate a full transition to electrification

Funding/incentives for building owners



# If you could offer one suggestion to strengthen the actions in the BUILDINGS category, what would you offer?

Make sure that switch to electrical replacement is as efficient as carbon capture of natural gas or renewable natural gas

Consider how we can make conversion affordable for all.

Costs and practicality not considered in this nor policy constraints

Add CO2e emissions to Energy Trust of Oregon cost effectiveness calculations.

Providing real time energy consumption feedback to consumers

How do we increase grid reliability, particularly with respect to multiple hazards? We have a long way to go and can't ask people, businesses, or agencies to electrify w/o a more reliable electric grid. Much bigger than just ClackCo.

# What remaining BUILDINGS questions do you have?

Action #1: Why did Landscaping actions not meet the threshold for inclusion? Hopefully increasing carbon sequestration from trees and soils is included elsewhere.

Action #7: Can some reduction assumptions be attributed to passive approaches?

1. Increase the use of passive solar and landscaping in codes. 2. Target housing speculation as a source of funds for incentivizing retrofits

Action #5: Why can we not be more aggressive with County buildings (meet net zero), being the area where the County has the most influence over actions taken? (ie using the Target Outcome relating to county buildings)

Has building orientation and new street outlay guidelines been considered?

What LEED standard is Clackamas County currently constructing buildings to?

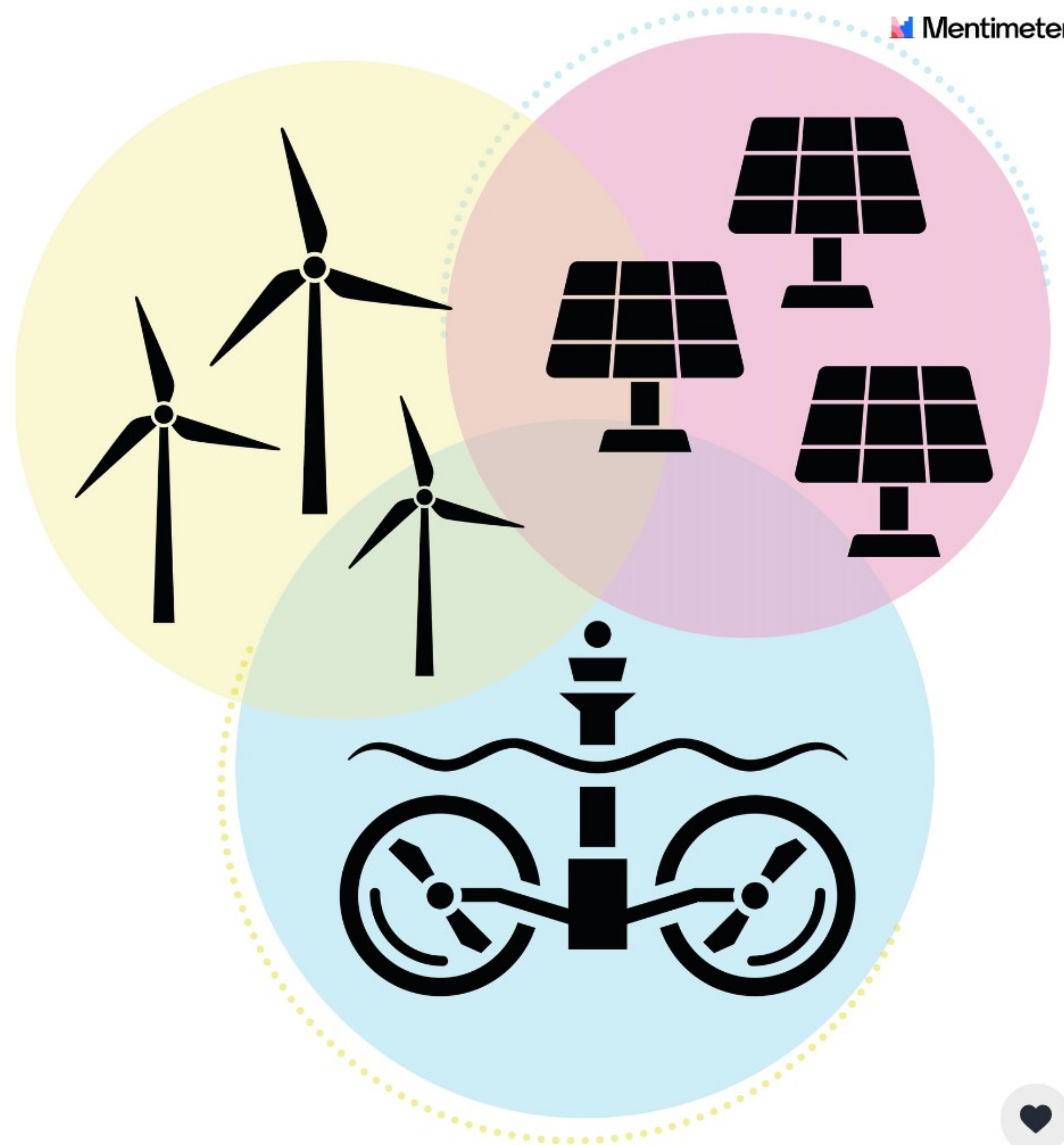
Action #6: Can we be more aggressive with the County category than the others, being as more influence can be exerted?

The CAP should include financial incentives for businesses to implement energy efficiency.

Financing should include energy efficiency in mortgage applications.

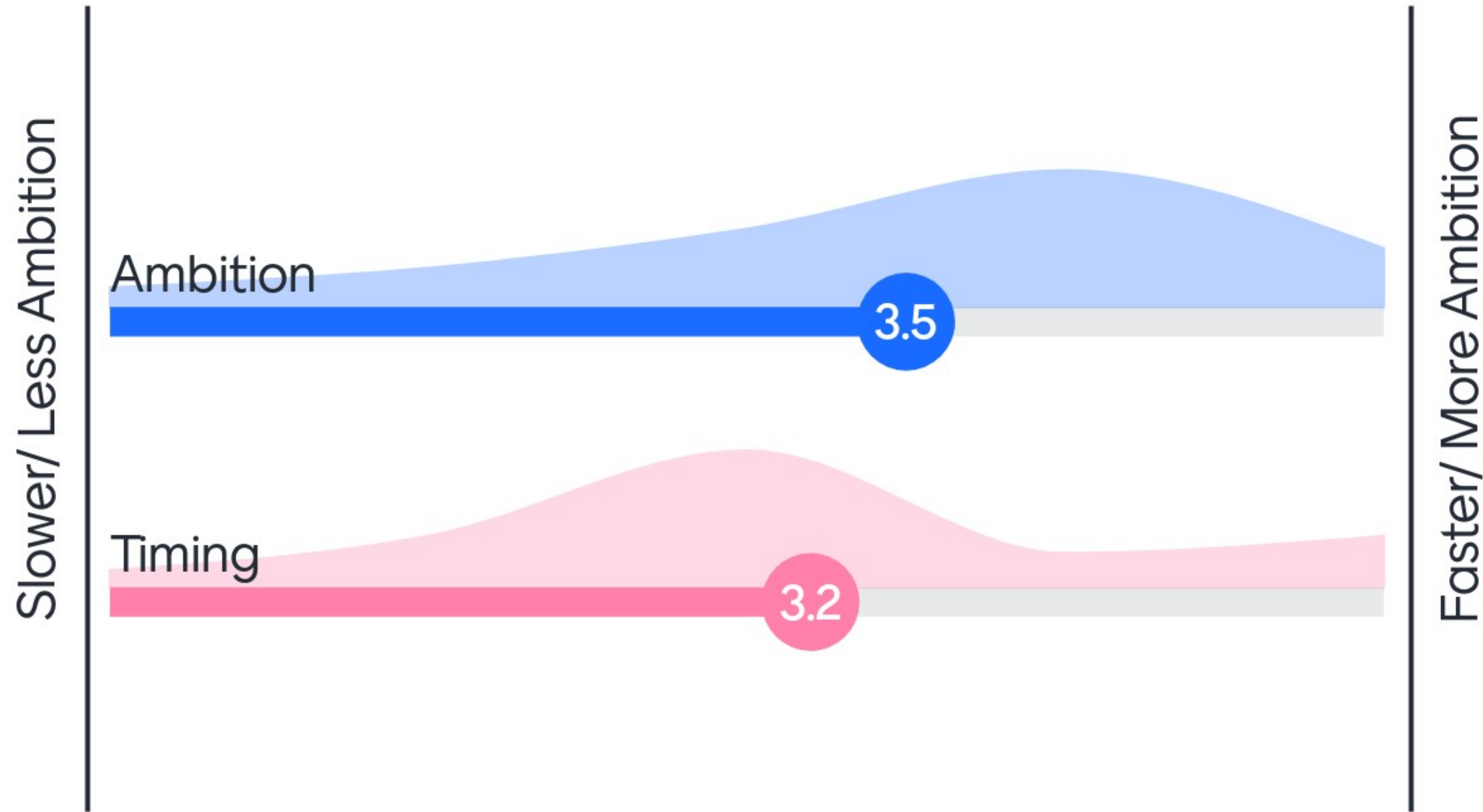


# Zero Emissions Energy

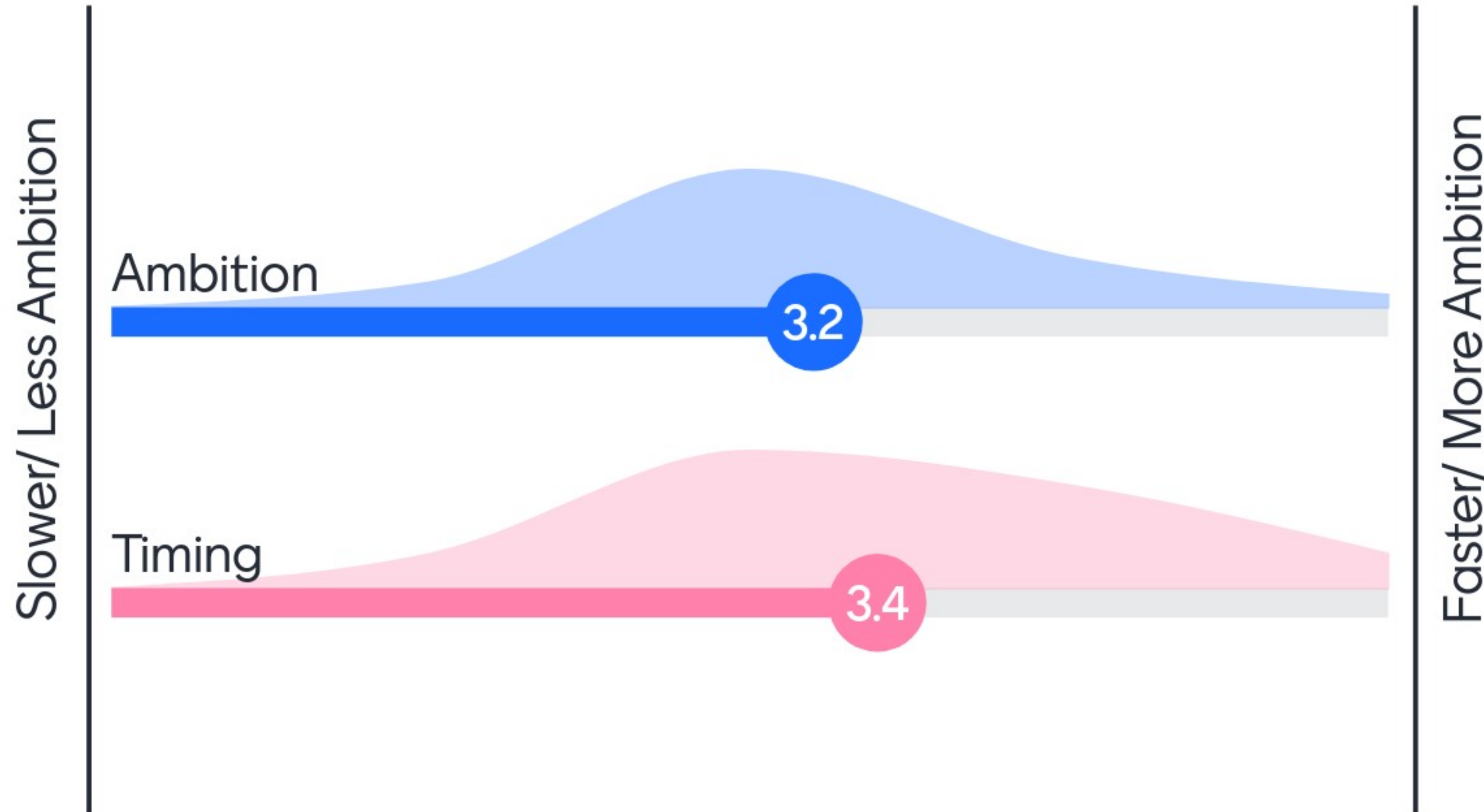




# By 2025, ensure 30% of residential and business customers purchase emissions-free electricity.

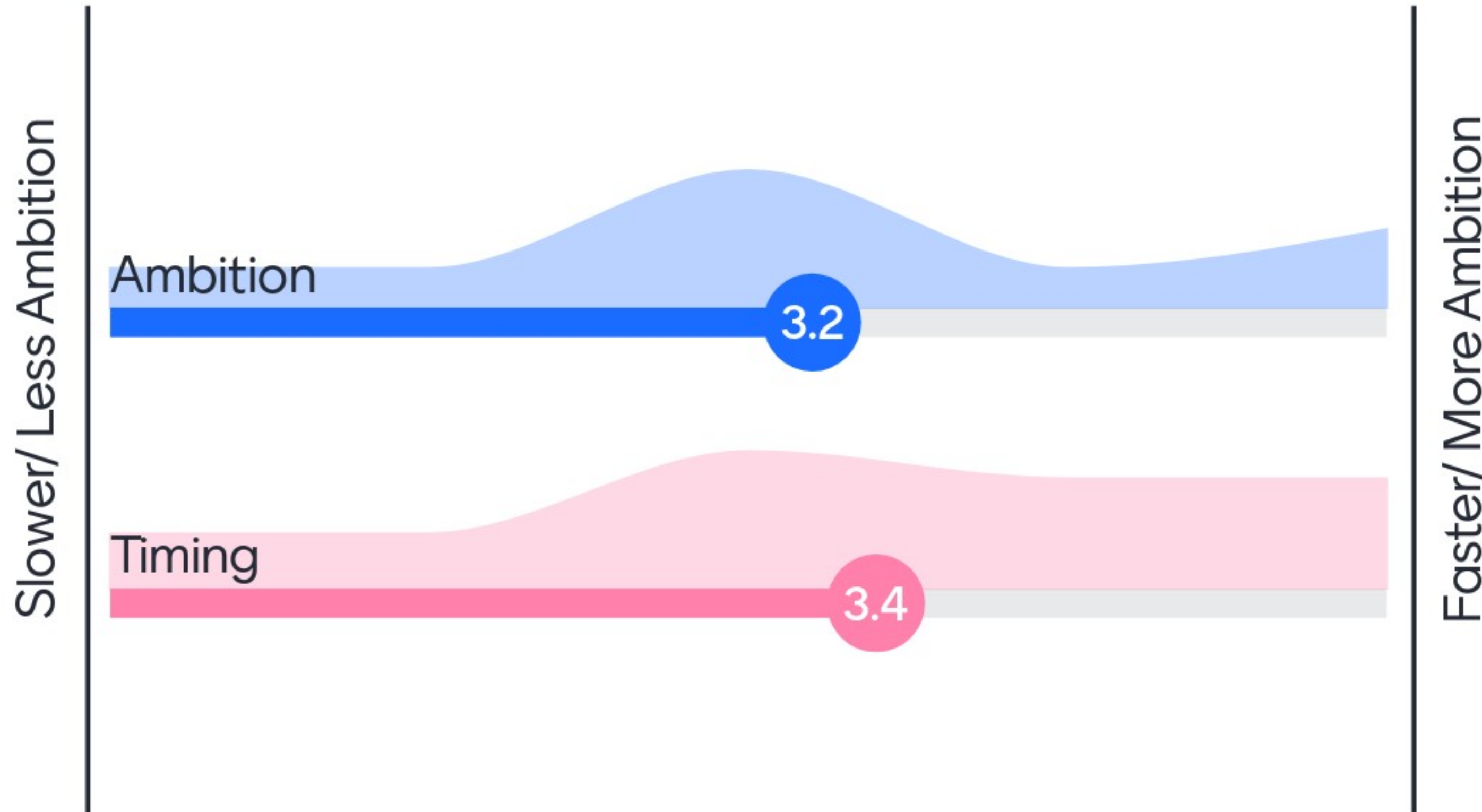


# By 2035, ensure all electricity is produced by non-emitting sources.



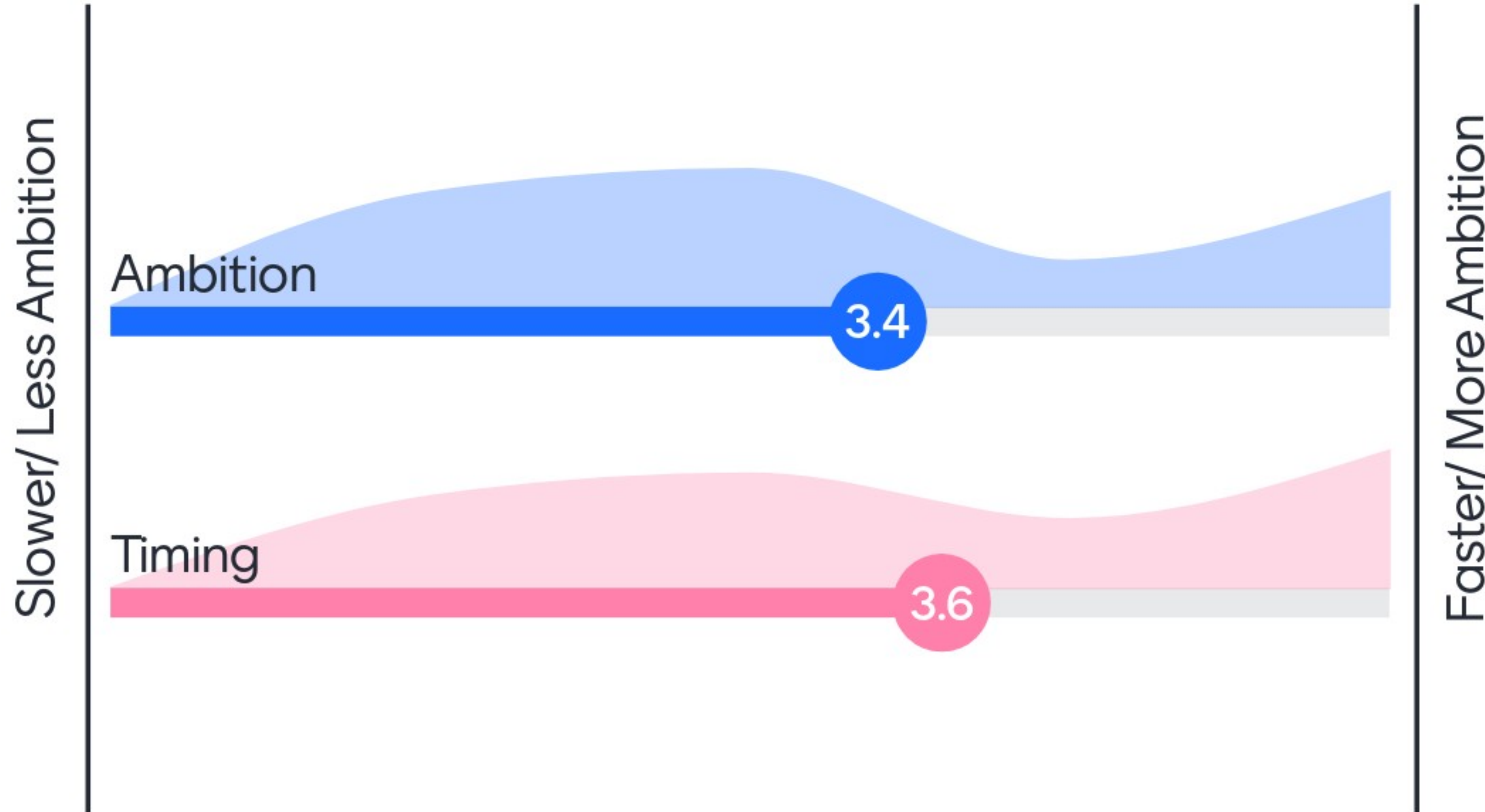


By 2035, 100% of natural gas must be carbon-neutral (i.e. RNG or fossil-fuel with offsets). By 2050, all natural gas must be fossil-fuel-free.

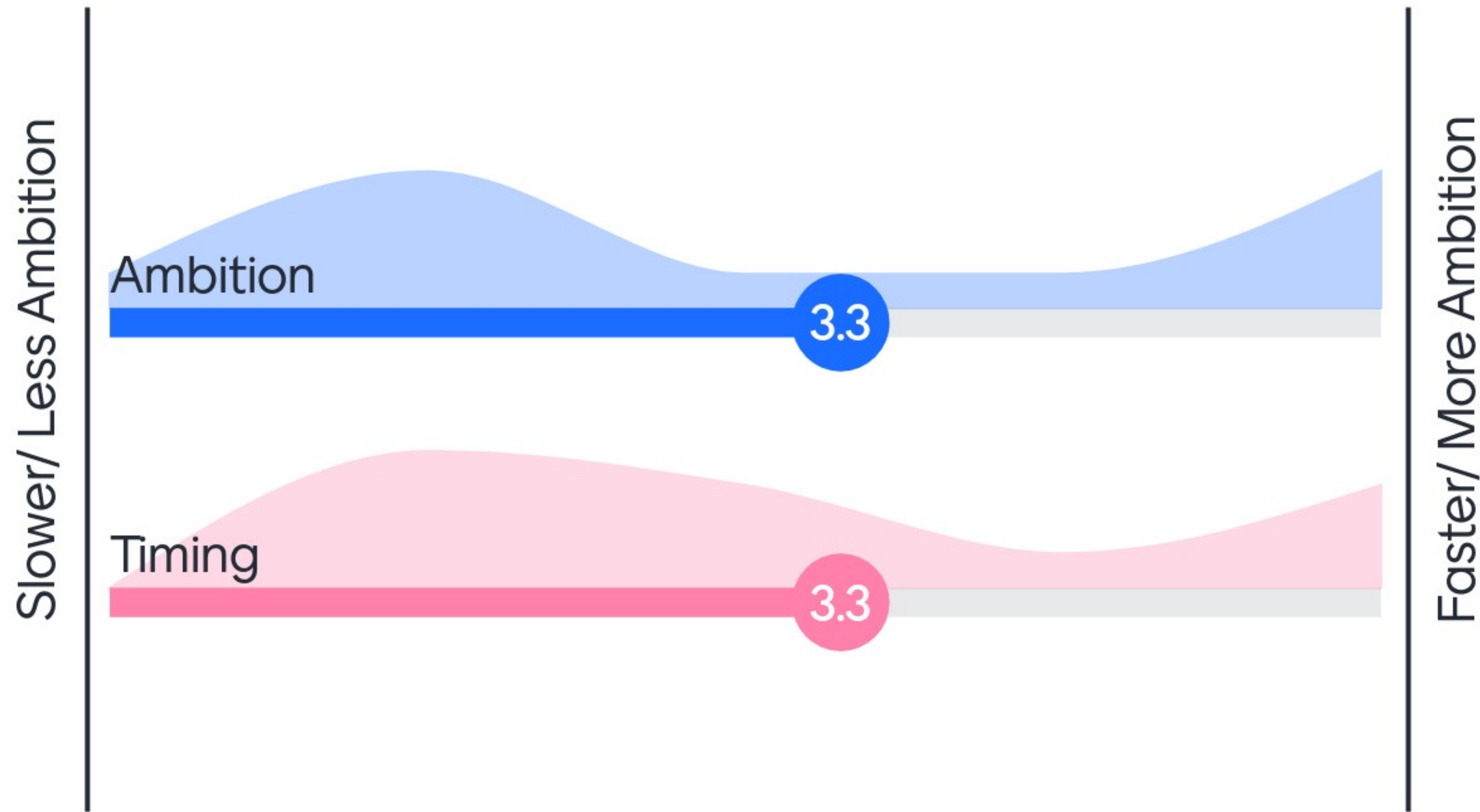




By 2050, 100% of new buildings and 50% of existing County buildings receive 50% of their electricity from on-site solar PV, with battery storage.



By 2024, install an additional 210 MW of ground-mount solar relative to 2018 baseline.





# If you could offer one suggestion to strengthen the actions in the ENERGY category, what would you offer?

Where solar farms are created should be a primary consideration.

I didn't see a question about wind

If this group is confused on types of energy and what I best, then just think what the public will think

More aggressive for county gov't usage - 100% renewable

Look at mandating electric readiness similar to Seattle's building code.

Let's let the utilities compete to provide the best carbon neutral energy. If consumers are wanting this, it will motivate them

Public education will be needed to get more of the county's populace on board with these changes.

Is there an action for electric vehicles?

It'd be useful to know current solar baseline as well as what's currently in the works.



# If you could offer one suggestion to strengthen the actions in the ENERGY category, what would you offer?

I am not comfortable with recommending natural gas for our carbon neutral future

Support local businesses that introduce cost effective energy efficiency strategies for the existing building stock.

Costs, reliability, practicality, legislative feasibility, policy constraints, resource adequacy are not addressed, very complex subject for simple answering

Address fugitive emissions

Need to know the baseline for coming up with the 210MW new solar. And do we have enough land base in the county for that aggressive of a program?

full understanding of solar farm expansions, locations and the recyclability of the technology being used.

Whatever new capacity or capability we create has to be resilient to our range of hazards.

It's ok to phase out industries that are obsolete (natural gas) as long as it is a just transition

Resource adequacy, and at what cost and what sacrifice to reliability.

# If you could offer one suggestion to strengthen the actions in the ENERGY category, what would you offer?

My understanding is solar is only 1/3 available on an annual basis in Western Oregon. Does the model consider the shortfall in solar even with the additional 210MW proposed?

Hydrogen technology playing in the industrial space



# What remaining ENERGY questions do you have?

Action #9: Can 100% renewable energy for County be included?

What is our current solar baseline and have we identified potential sites for ground-mounted solar (and if so, how is that done)?

Current residential solar programs are tied to cost of electricity instead of the cost of carbon which is a limitation

Action 11: Can we address fugitive emissions, and sooner? The BAP document called out fugitive emissions from natural gas as continuing to generate powerful greenhouse gas emissions.

More info on what Carbon Neutral Gas and Electric services means would be helpful to the public

What non-climate impacts are there with renewable natural gas? Are they similar to health impacts of natural gas now?

Action 12: Can we be more aggressive with the County target, since this is an area where there is more direct influence?

What happens to the LCS if nuclear power becomes a viable option?

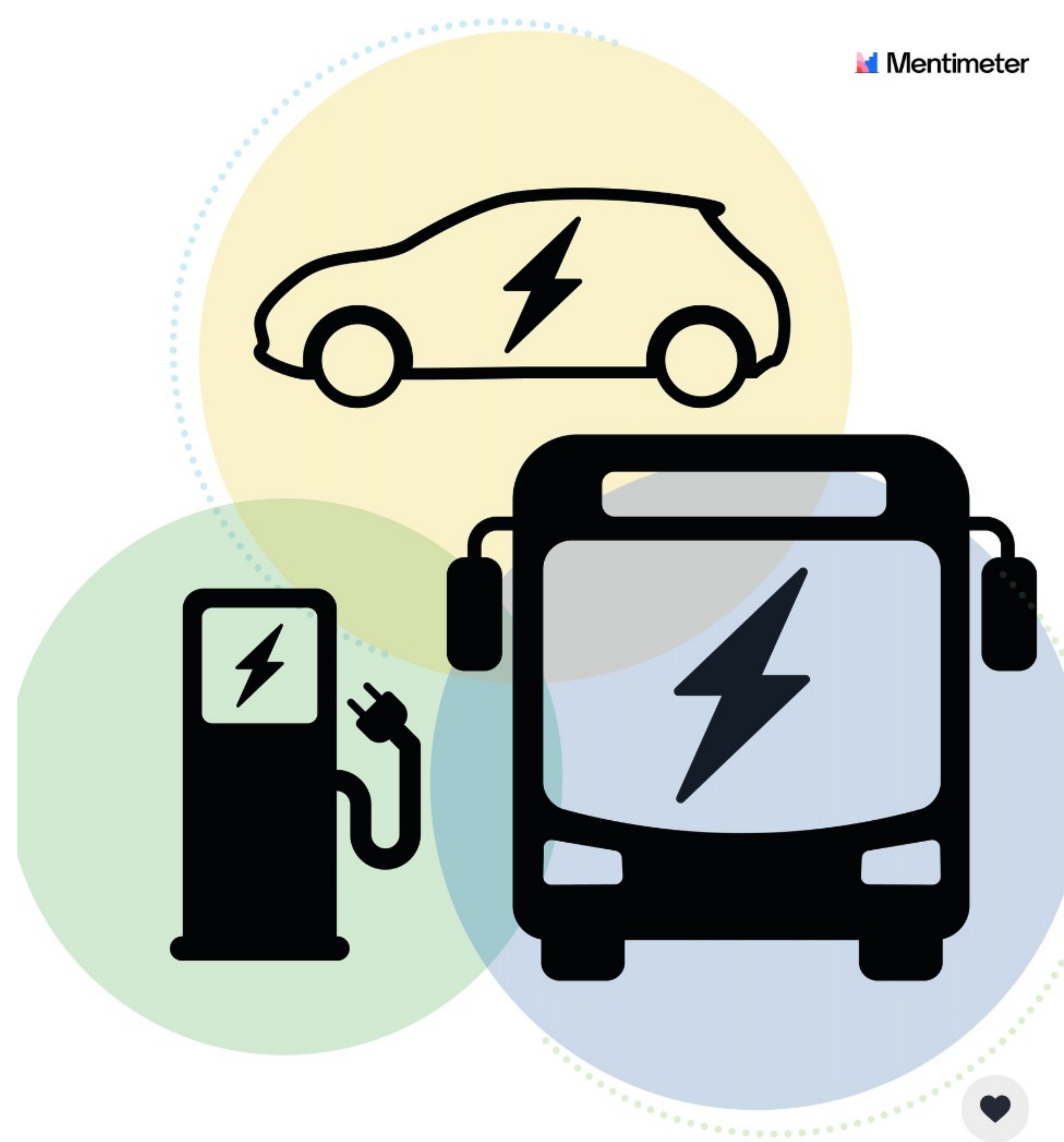
use of water & bio technology and efficacy of their use as energy

# What remaining ENERGY questions do you have?

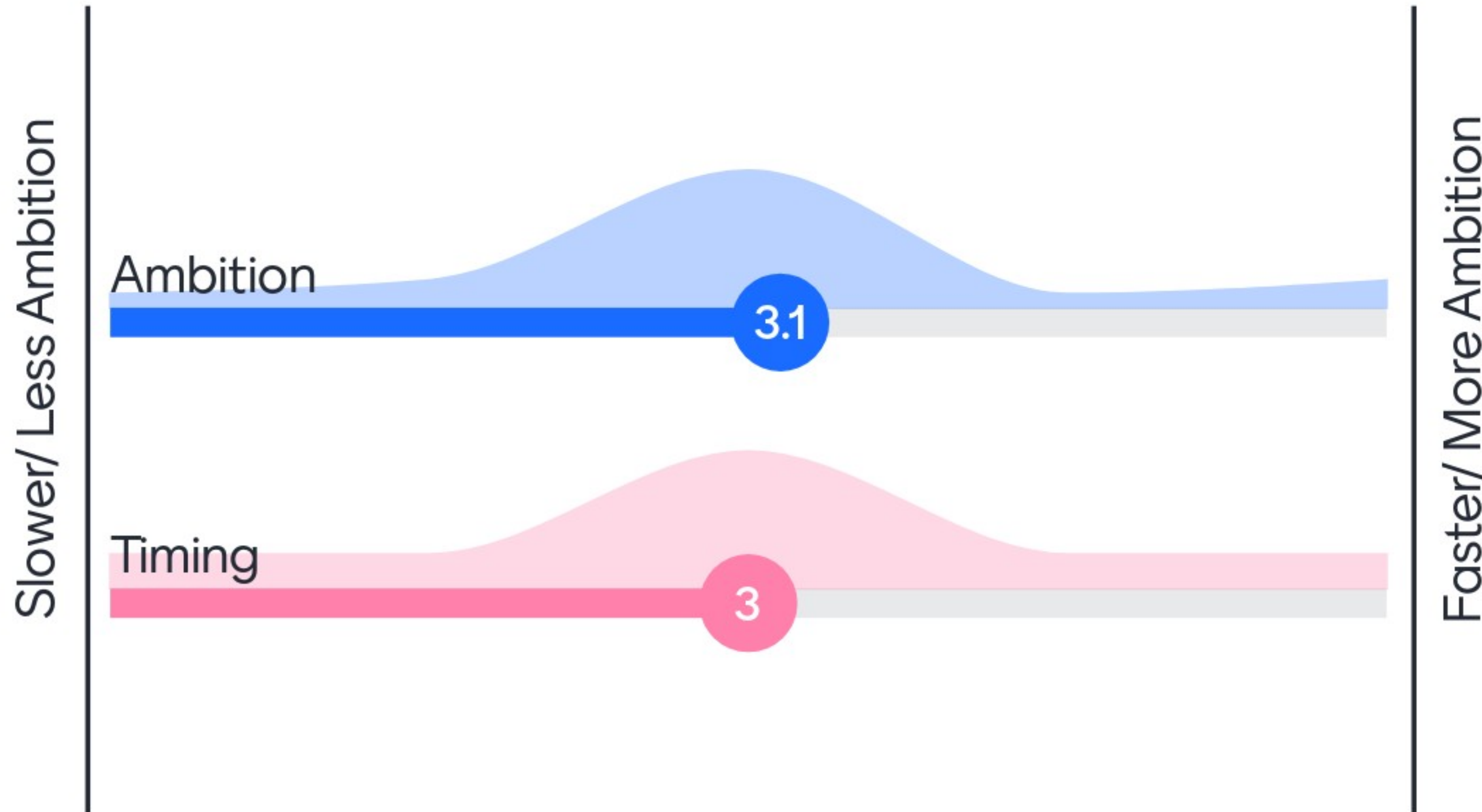
What are projected improvements in energy storage?



# Transportation

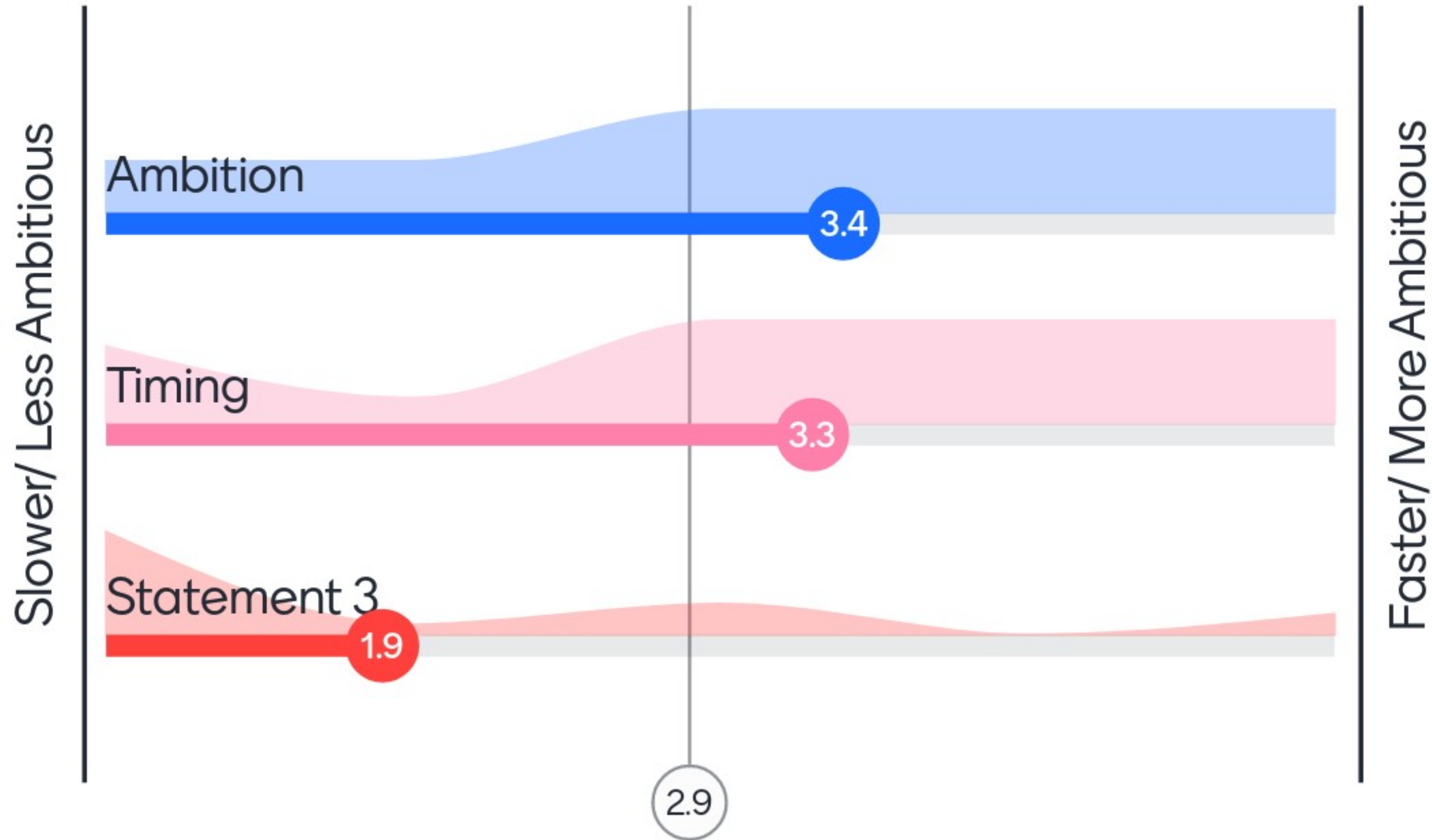


2021: All electric transit uses only green electricity. 2025: All new buses are electric. 2040: All transit vehicles are zero emissions.

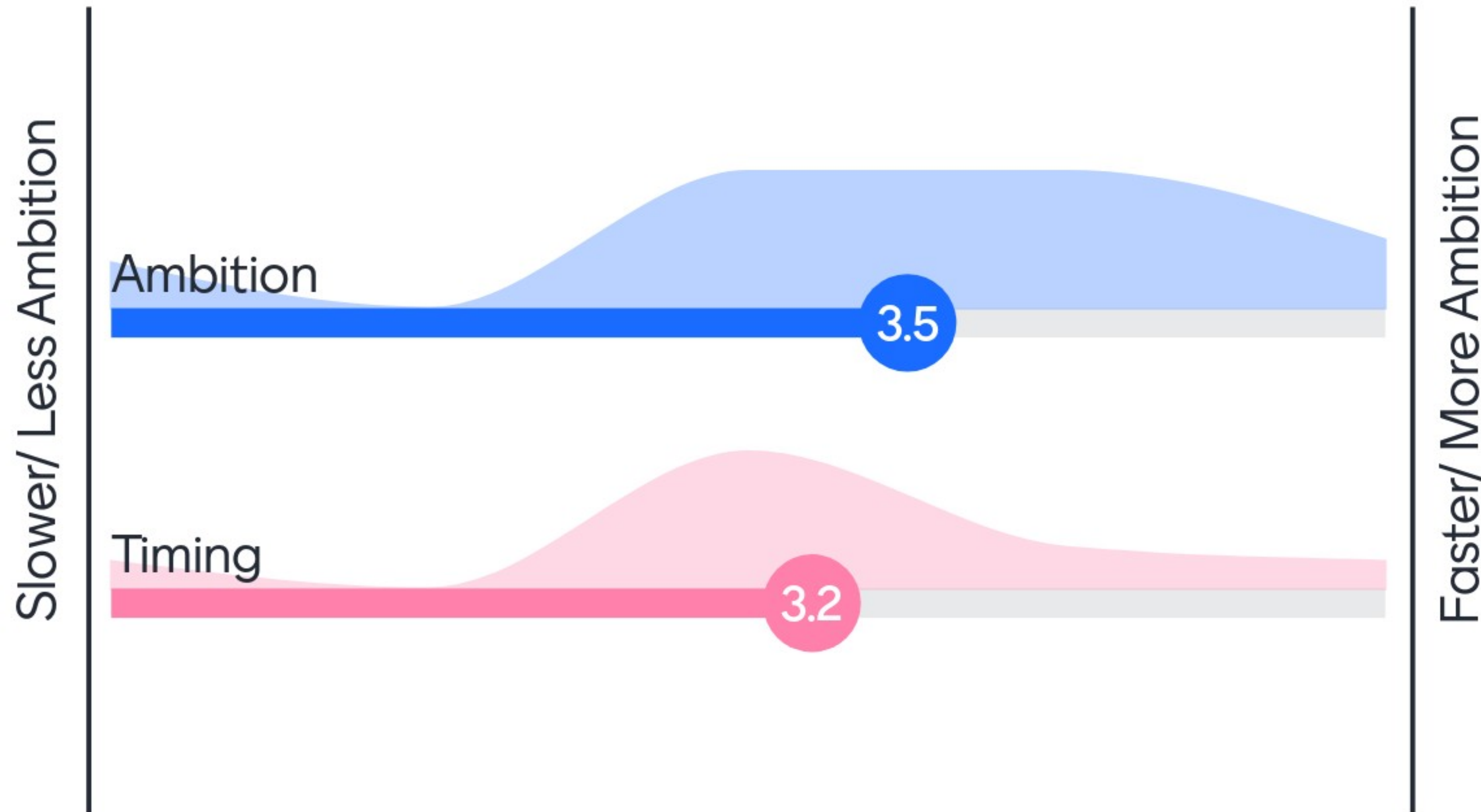




By 2040, at least: 30% of commuting trips will be carpooling; 6% will be walked or biked; 7% will be on transit, and 12% will telework.

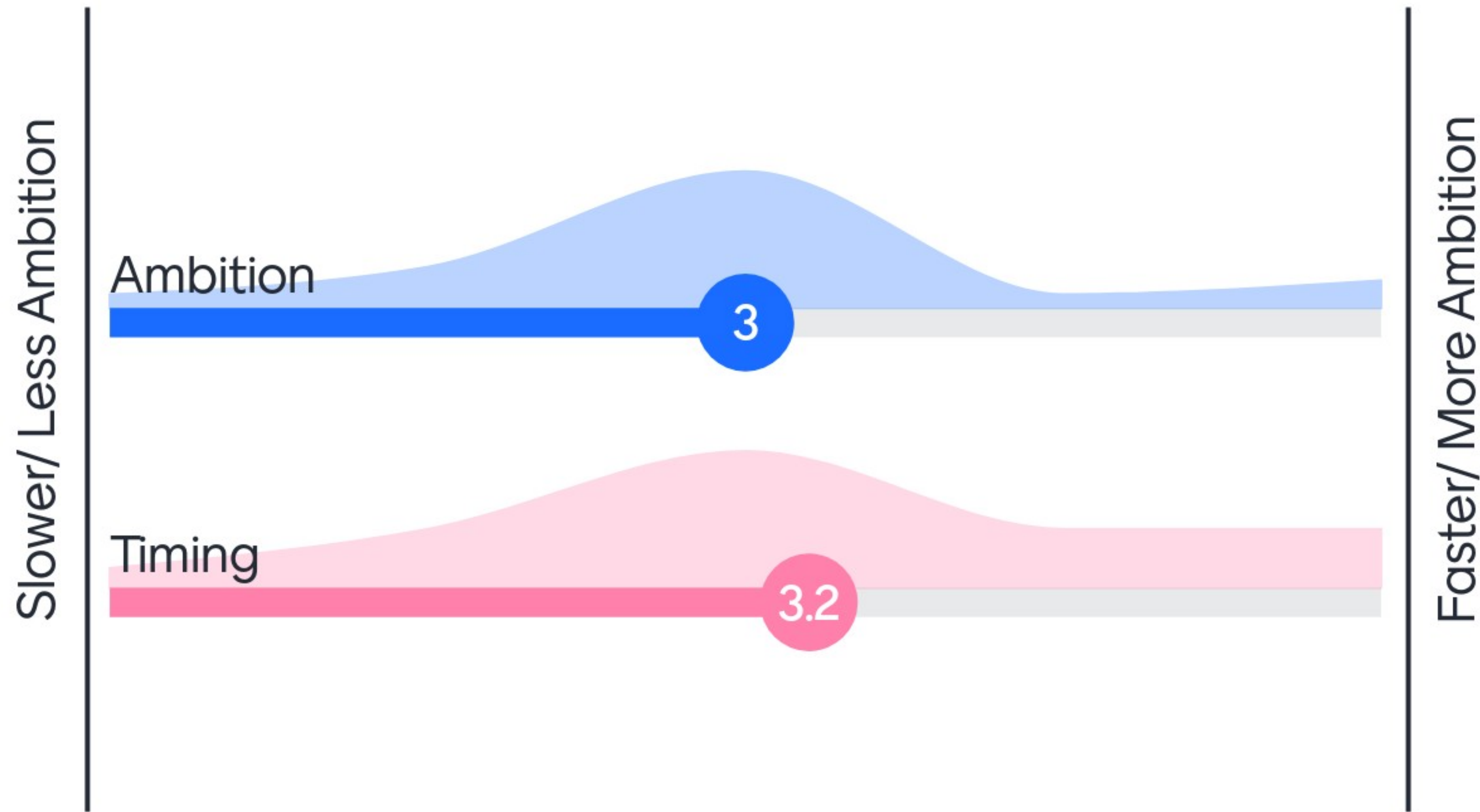


# By 2025, 12% of all potential commuting trips are replaced by telework.

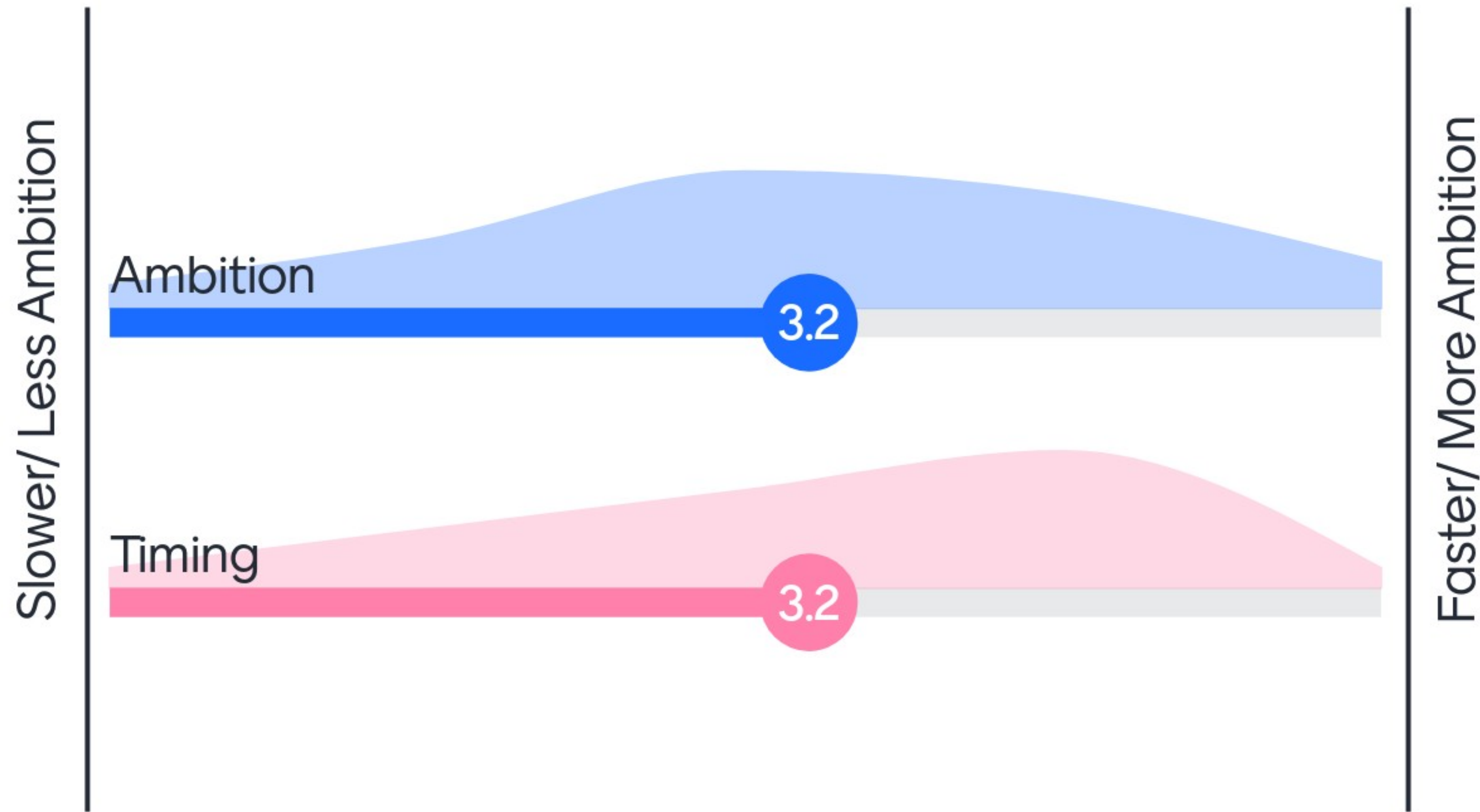




By 2030, all new County LDVs purchased are zero emissions; by 2035 all LDVs in service are zero emissions.

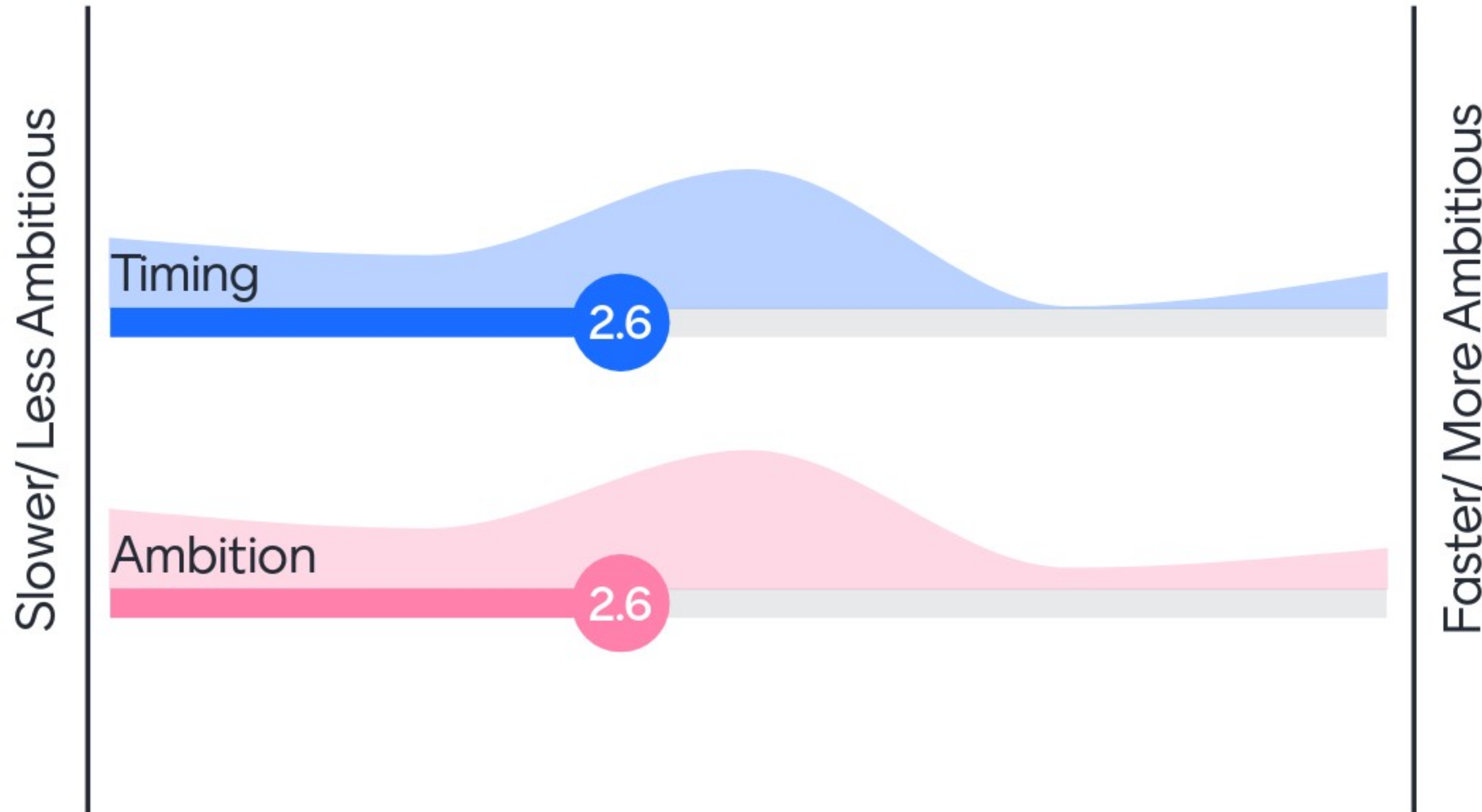


By 2035, all new County HDVs are zero emissions; by 2040, all County HDVs in service are zero emissions.

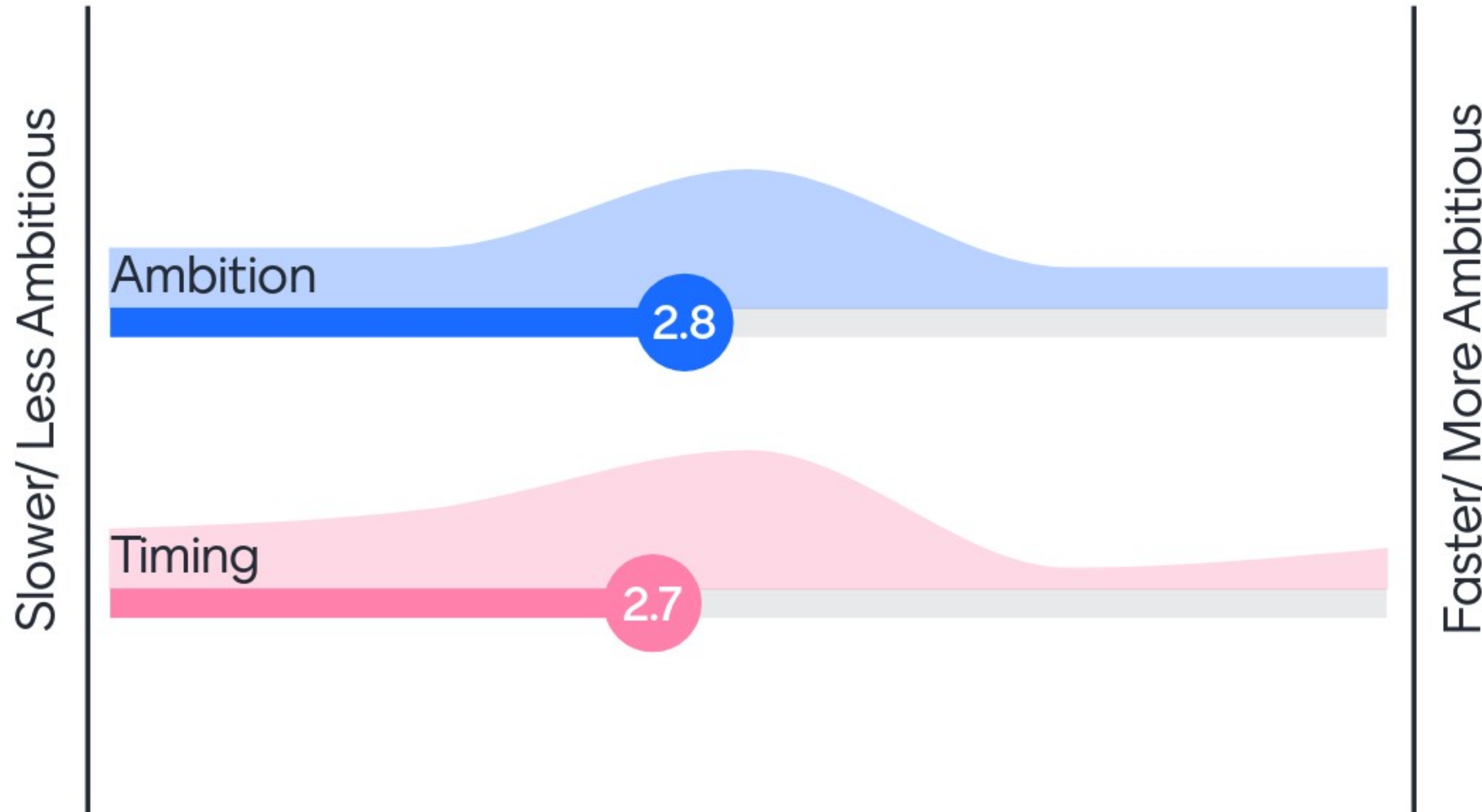




By 2030, 50% of PV sales & 50% of vehicles registered are zero emissions. By 2035, 90% of PV sales & 75% of registered vehicles are zero emissions.

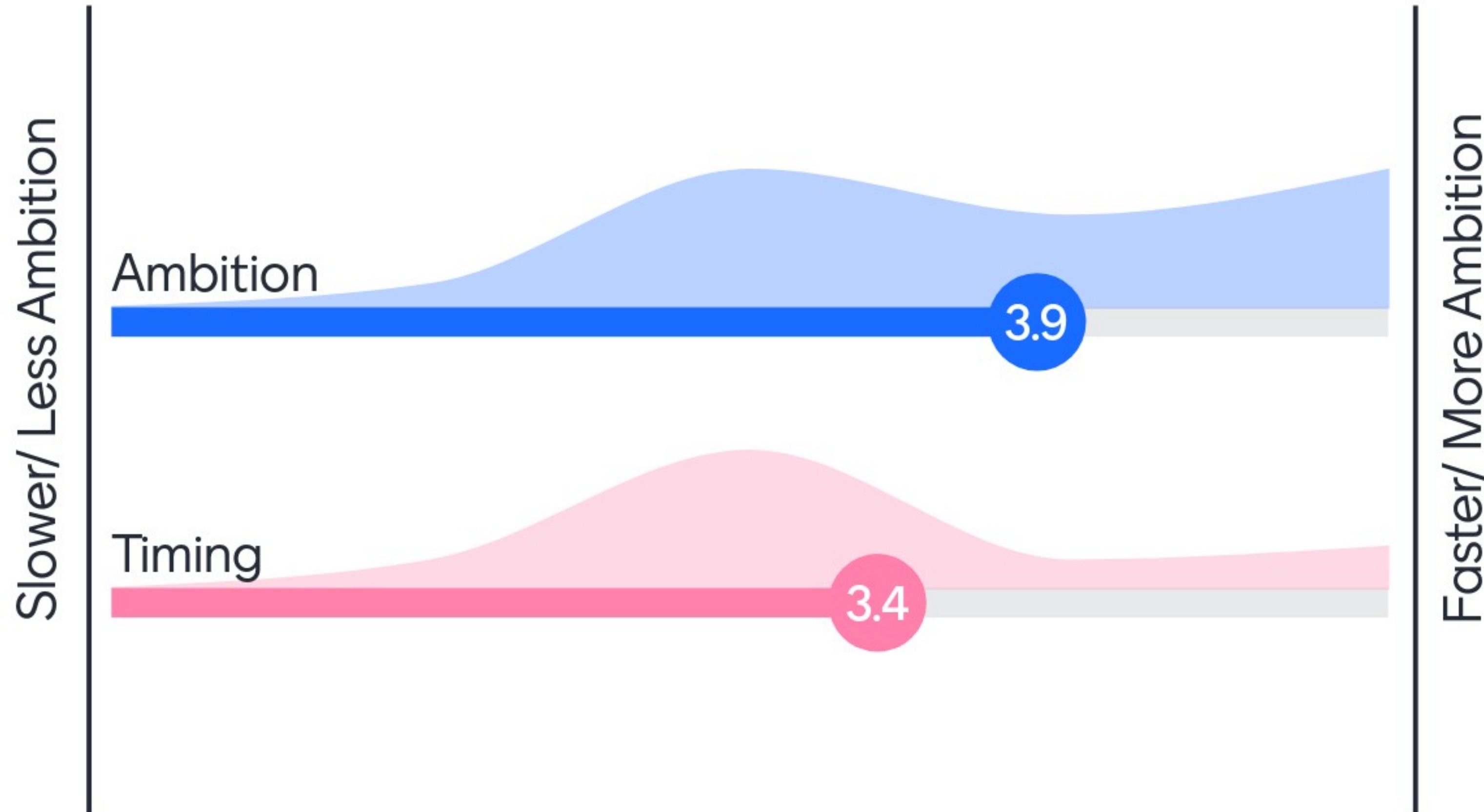


By 2040, all agriculture, forestry, and off-road vehicles will be zero emissions: 50% electric and 50% biodiesel/renewable diesel.

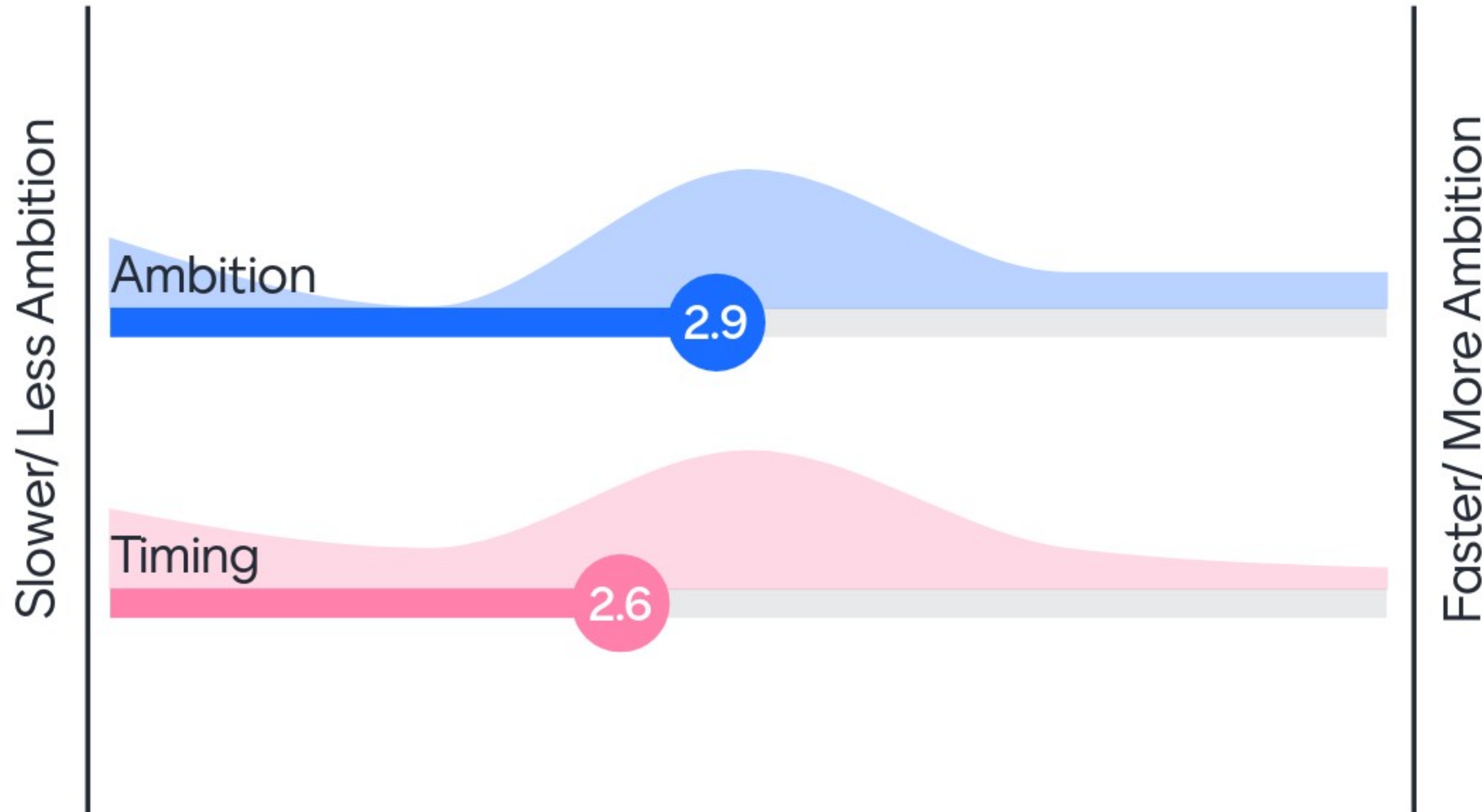




# By 2030, improve commercial freight system efficiency by 25%.



By 2035, 90% of commercial heavy duty vehicles purchased are zero emissions, and by 2038, all commercial ICE vehicles are decommissioned.





# If you could offer one suggestion to strengthen the actions in the TRANSPORTATION category, what would you offer?

Increase walk/bike/other more. Top desired outcome from the YATF!

Need goal to reduce vehicle miles traveled

More EV charging stations

Public education and incentives will be required to achieve these goals.

Costs and equity, not to mention infrastructure. Additionally this is going to require a lot of investment that companies do not have the capital for.

More EV charging stations

Recognize the extreme interdependency of the transportation sector on everything else we're looking at.

Support strengthening our regional port for importing and exporting of goods to the region

Electric utility subsidies for home EV charging



# If you could offer one suggestion to strengthen the actions in the TRANSPORTATION category, what would you offer?

Recommending that the County develop a near-term electric vehicle/charging roadmap strategy. This could inform how and where to pursue future funding for infrastructure.

Transportation changes include a substantial equity issue that we must consider.

A Clackamas County-specific TDM organization could support a transition to alternative mobility options. Other counties in Metro have these orgs.

Target suv/light truck as that category growing faster than other types of vehicles

Create mobility hubs

If the County allocated its purchases on carbon footprint rather than least cost ti could be another driver to promote local vendors which would reduce overall transportation emissions

It seems like infrastructure needs to proceed some of these goals.

To convert Forestry equipment used in the woods to electric is not practical since operations are a long way from any electrical charging. Log trucks could be converted to electric, but compressed natural gas (non emitting) could be more practical.



# What remaining TRANSPORTATION questions do you have?

Action 15: I manage the CCC Xpress Shuttle, which is a public transit service at Clackamas Community College. I am in the process of using ODOT grant funds to purchase two new shuttles in 2022. Due to how expensive electric shuttles are

Action 15: Clackamas County receives the same ODOT grants that I receive. Assuming these grants do not provide more funding by 2025, how will Clackamas County and other transit providers only procure electric buses starting in 2025?

Action 16: I am concerned that transportation network companies (TNC) like Uber and Lyft could be considered carpool trips. Since many studies have found that TNCs increase congestion, I want TNC trips to be considered drive alone and not a carpool.

Action 16: I want to see scootershare expand from Portland to Clackamas County. Is scootershare included in "other means"? If so, how was the 6% determined when including scootershare? What other modes are included in "other means"?

Action 16: Due to how the Federal Transit Administration (FTA) determines what is eligible for grant funding, I recommend putting bikeshare and scootershare in "transit". How do you define "transit"? Since bikeshare and scootershare are often operate

Action 16: Why can we not increase walk/bike/other more? This is a highly desired outcome from the YATF

Action 18: Where is EV charging infrastructure addressed?

Action 18: Should we differentiate between SUV/"Light truck" type vehicles and target more aggressively, as these will be growing much faster than cars, and electrifying more slowly.

Action 21: What does "system efficiency" mean? - how does this eliminate tailpipe emissions from freight?



# What remaining TRANSPORTATION questions do you have?

We can implement active transportation into the system.  
The County has a few creative projects doing this.

Is biodiesel an effective CO2 emissions reduction strategy?

How much control do we have over this relative to  
region/state/etc?

I am curious about the level of transit investment that this  
would require, especially as TriMet does not look to invest in  
Clackamas County heavily

How are we connecting transportation goals to building  
requirements? Lowering or eliminating parking requirements  
makes a lot of sense given the rise in shared transportation  
and alternative modes.

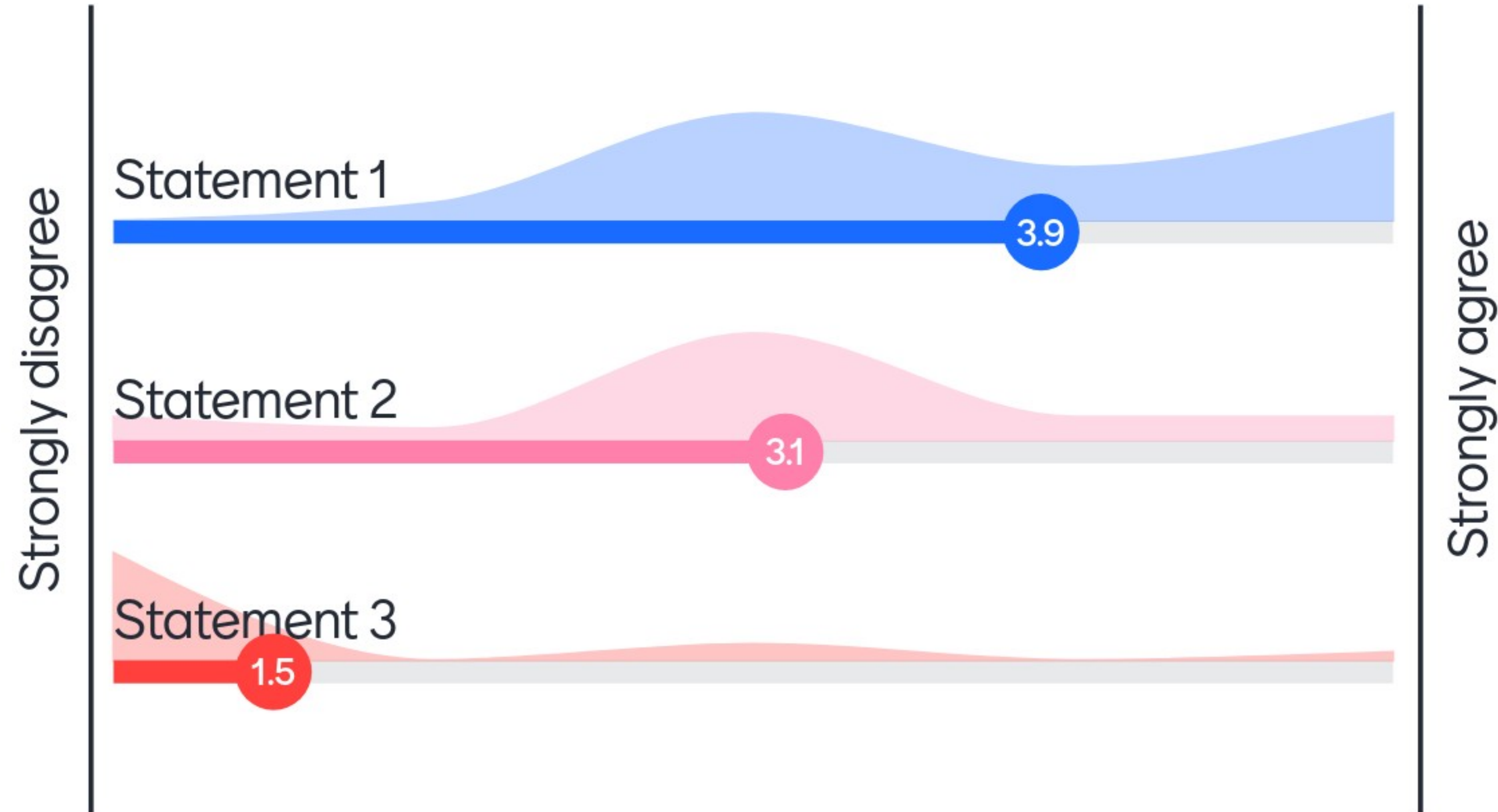
Compressed Natural gas may be more efficient to use in  
heavy equipment (trucks) since the battery storage for  
these vehicles may be too heavy. Fed Meyer is currently using  
CNG for their long haul trucks.



# Waste and Wastewater

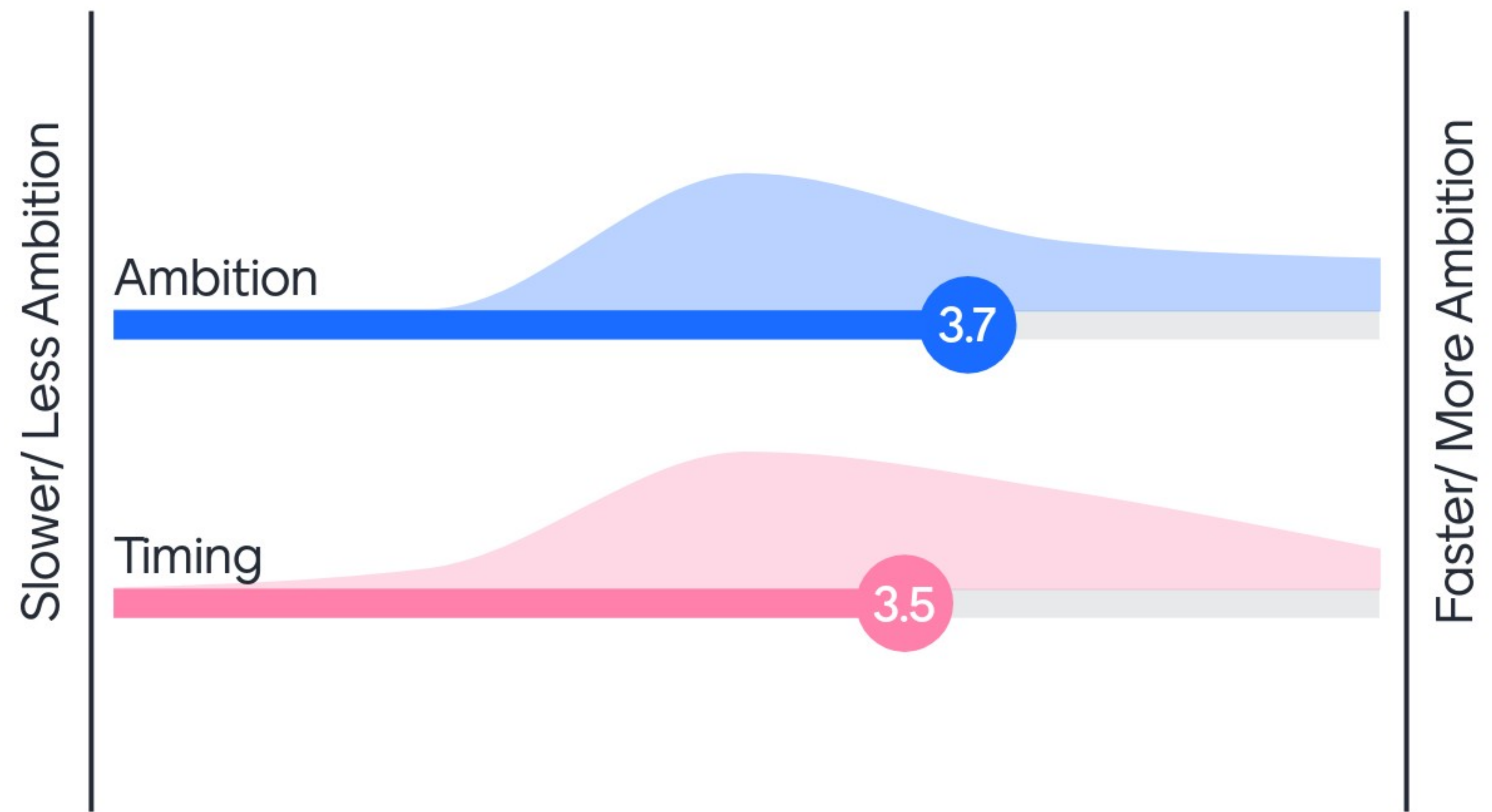


# By 2030, reduce organic waste sent to landfills by 50%.





By 2030, maximize RNG generation and onsite use at all WWTPs (where possible) in Clackamas County.



# If you could offer one suggestion to strengthen the actions in the **WASTE AND WASTEWATER** category, what would you offer?

support for water system microhydro

Align with ODEQ's materials management work

Consider the location of the new Metro South Transfer Station

Look to leverage demand response capacities at wastewater plants. This can both lower peak electricity demand, and provide a modest funding stream.

Reduce waste inputs into the system

Reducing water waste(in applications and more graywater use seems applicable.

Support moving upgrades at treatment plants to an earlier date

waste prevention upstream, rather than addressing downstream at the landfill level

matching industrial byproducts with inputs



# If you could offer one suggestion to strengthen the actions in the **WASTE AND WASTEWATER** category, what would you offer?

Reconsider CNG or NG as an alternate source for transportation and for HVAC uses instead of insisting most use of electric replacements in the model

# What remaining WASTE & WASTEWATER questions do you have?

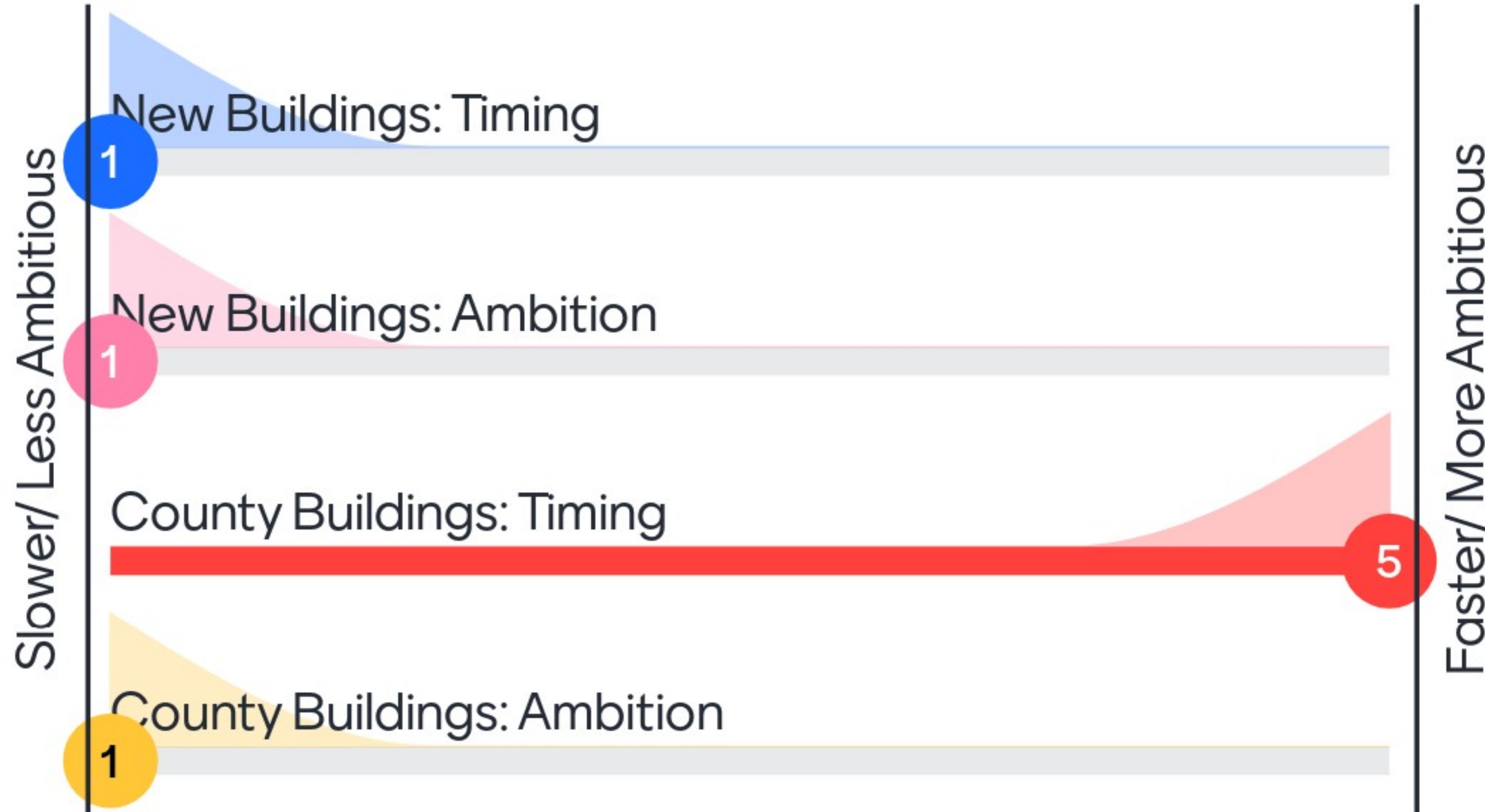
Action 25: Have we considered the improvements we should see from Oregon's newly passed Recycling Modernization Act?

Are there useful changes in W/WW plant design, beyond RNG, that we should consider?

Waste and consumption are closely related. When are we working on consumption related actions?



By 2050, 100% of new buildings and 50% of existing County buildings receive 50% of their electricity from on-site solar PV, with battery storage.



# How do you want to proceed?

